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Combat Crew

strategic air command

FEBRUARY 1988

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Combat Crew

Magazine of the Strategic Air Command—38th Year of Publication

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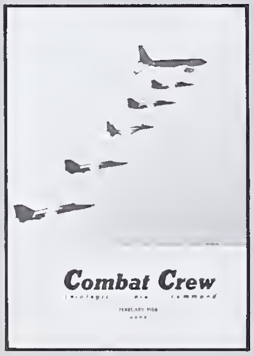

On Our Cover
Refueling fighters can be one of the most interesting and challenging tasks of a tanker crew member. For more on anchor refuelings, see page 8.

SACSP 127-1 VOL. XXXVIII NO. 2 FEBRUARY 1988

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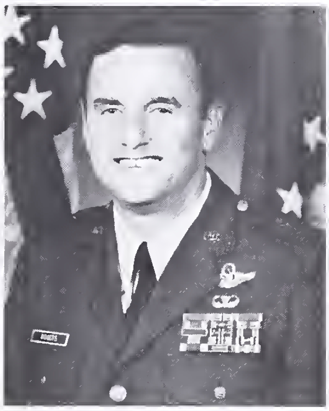


"YEAR OF THE WARFIGHTERS"

BRIG GENERAL ALAN V. ROGERS
DCS, Strategic Planning and Analysis

SAC has changed a lot during the 30 years since SAC bomber and tanker crews assumed the first alert. The retaliatory capability of ICBMs was added to the SIOP when our first missiles were placed on alert on 31 Oct 59. Since then, aircraft and missile systems have been upgraded and modernized so that today's SAC forces represent the most lethal array of military strength the world has ever known.

There have indeed been many changes over the years, but one thing has always remained constant—the superb contributions to deterrence of the men and women of the SAC alert force. You are the ones that make it all possible. You're the SAC warriors. Your dedication and professionalism have never waivered. You endure personal hardship, family separation, and constant scrutiny so that the United States and our allies can remain free to pursue the ideals of our democratic way of life.

Over the last three decades, SAC's combat crews have honed warfighting skills to support national objectives and implement the policies of our elected leadership. SAC people and SAC machines were called on when tensions arose in Cuba, the Middle East, Vietnam, and Libya. The SAC alert force is there—all the time—everyday—in the missile launch control centers and aircraft alert facilities. SAC is ready to go: anytime, anywhere. Our job is to be ready, and stay ready, and maintain peace through deterrence. That is our responsibility; we do it with pride, dedication, and professionalism—and we do it better than anyone else in the world.

To recognize the achievements of SAC people and the importance of SAC alert, General Chain declared 1988 the **"Year of the SAC Alert Force."** He has implemented a vigorous program designed to enhance the prestige, reaffirm the importance, and upgrade the environment of SAC alert. In last month's article, General Chain introduced the program and commented on major goals and activities. This article will discuss some of the specific initiatives SAC is pursuing and give you a preview of what you can expect over the next year.

Since late September, when the CINCSAC announced the **"Year of the SAC Alert Force"** program, the entire command has been compiling ideas and making changes that improve the way we do business. Every active, guard, and reserve unit in SAC has come up with suggestions on how we can improve alert. This is an area where you can help. I assure you that all suggestions will be examined, and your good ideas will be implemented whenever possible.

All of us who've ever pulled an alert have had ideas on how we could do things better. It's important that we share those ideas across the command. I challenge you to review what your compatriates are doing at other bases and implement their good ideas whenever possible. Individual units and the entire command have already made good progress, but there is much to be done as we continue the "Year of the SAC Alert Force" program over the next year.

Right now aircrew members are "flying while on alert". As with any new program, there will be adjustments as we figure out the best way to schedule sorties and minimize the impact on scheduling, maintenance, crew rest, and ground training. The point is, flying on alert is a **good idea** that came from the crew force, and SAC is doing it!

Crew members said SIOP procedures were getting too involved and too complicated. To date, the SIOP Simplification Working Group has addressed over 200 initiatives designed to improve our SIOP procedures. Because of your voice and good recommendations, there have been over 90 changes to missile and 20 changes to aircraft procedures. For example, aircrew EWO self-study is now a quarterly versus monthly requirement. Missileer training is more realistic and productive because of a new training/evaluation matrix

that limits unrealistic EWO scenarios in the trainer. And finally, the SIOP interchange program brings different crew members to SAC headquarters each quarter for an orientation on the SIOP development process. There is still a lot of effort needed in this area, and this program should continue to produce positive results for you and SAC.

Missile crews have long recognized the need for a more functional, appealing duty uniform. On 4 Dec 87, the AF Uniform Board approved a CINCSAC initiative to develop this new uniform.

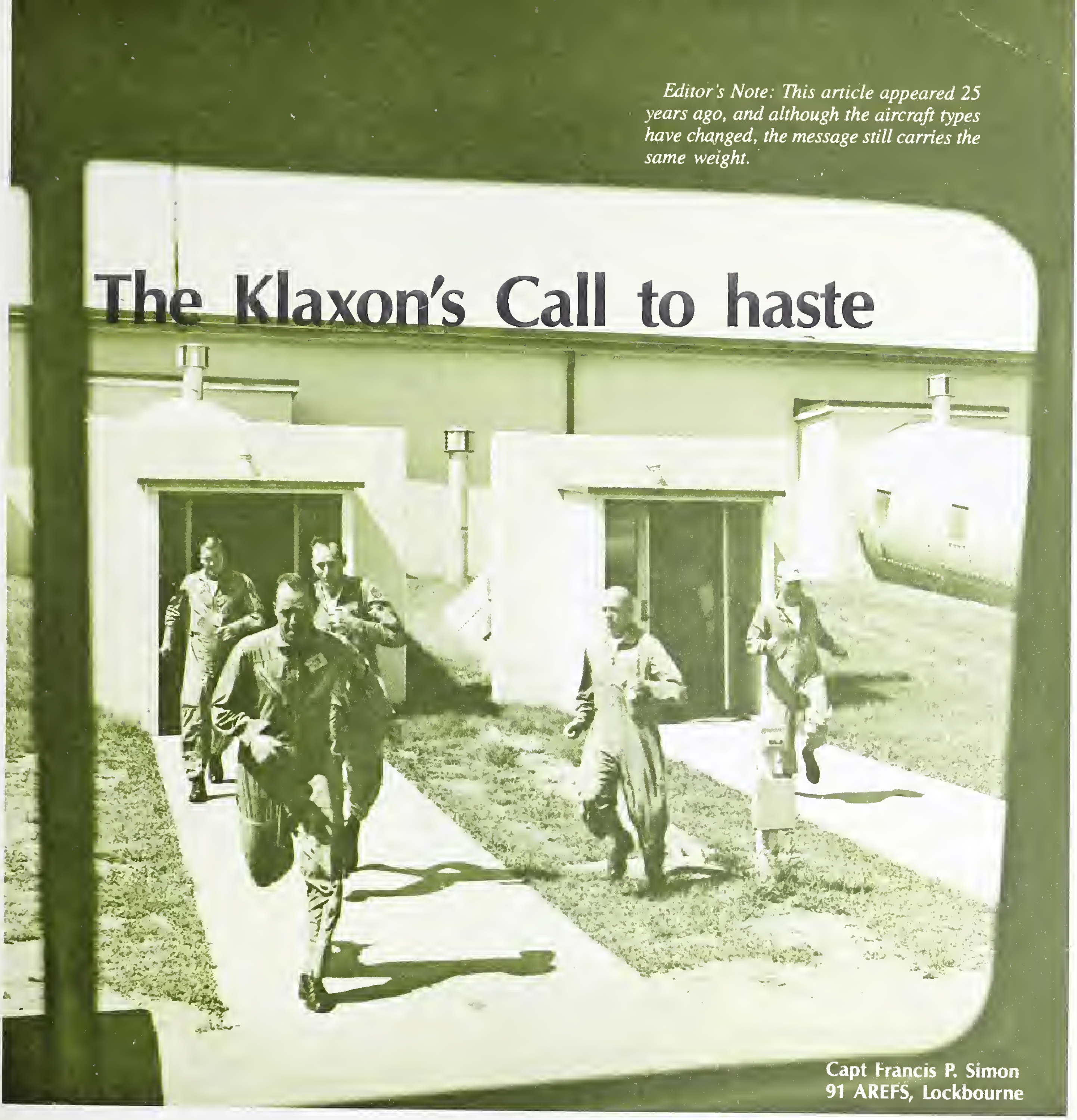
In the interest of doing the alert job even better, the SAC/DO has commissioned a study group to review alert procedures and crew member's suggestions on how to make alert procedures more practical and workable.

A lot of activity is also underway to upgrade the alert environment. Across the command, the bases are currently engaged in supporting 248 projects that total $51 million. CINCSAC recently committed his commander's emphasis funds to construct a missile alert vehicle storage facility and alter the family visitation center at Minot. So—things are happening; very positive steps are being taken throughout the command.

There are also programs underway to educate the public on the importance of SAC alert and the dedication of the alert force. The public needs to understand what you do, and recognize that your commitment and sacrifice is what helps keep America and our allies free. When President Reagan sent his recent letter to the men and women of SAC, he expressed "the appreciation of a grateful nation" for a job well done. This message is being provided to the national media, along with videos and historical accounts that have been created to tell your friends, families, and neighbors **how important your job is**. The Strategic Air Command is very proud of our alert force's heritage; we want all Americans to share this sense of pride.

Whether you are pulling alert, turning a wrench, or maintaining the homefront—your contributions are important. That is why 1988 is the **"Year of the SAC Alert Force,"** and that is why the spotlight is focused on you, the SAC Alert Force, as we celebrate this program over the next year.

As President Reagan so aptly stated: "You who serve in SAC today share with your predecessors a noble tradition of dedication to the unrelenting demands of constant watchfulness, instantaneous readiness, and unyielding professionalism." We are proud of that tradition; more importantly, we are very proud of what you do every day to keep that tradition alive. ★



Editor's Note: This article appeared 25 years ago, and although the aircraft types have changed, the message still carries the same weight.

The Klaxon's Call to haste

Capt Francis P. Simon
91 AREFS, Lockbourne

The klaxon's blare pierces my sleep and startles me into a state of half reality as it penetrates the alert barracks. I tug on my flying suit and fumble with my boots. Stumbling into the hall, I sprint into the stinging rain. Doors slam . . . headlights glare . . . engines race. The truck leaps forward; tires sizzle past intersections sprayed with flashing lights. Now we're through the alert gate and move alongside the KC-97.

I jump out of the truck and into the rain. My mind races after my feet, trying to catch up. Pitot covers off. The navigator and boom operator stand fire guard under the wings. The crew chief, with ground interphone line, crouches where the nose wheel deflects some of the downpour. The APU whines. I close the entrance door, climb to my seat and signal for engine start.

Wide-eyed but still half dazed I scan the checklist. Instruments dance as each rotating prop vibrates the aircraft. The copilot copies the message from the chattering radio. Engines are running. The door warning light flicks off, meaning the nav and boom are aboard. Impatiently I lean forward, peering through the rain-streaked plexiglas. Some of the KCs are beginning to taxi. "Coco alert!" the copilot shouts as he takes over the checklist review. Believing everything to be ready, I release the brakes and advance the throttles. The tanker begins to roll.

"Clear ground crewman!" the copilot yells. My feet slam the brake pedals; the nose dips with a jolt. "Ground, this is pilot." No answer.

A B-47 bomber roars into the sky aided by a rocket assisted takeoff. B-47s played a vital role in the early days of SAC's alert force.

"Ground, this is pilot," I repeat. Still no answer. My stomach knots as I stare outside where the props slash into the sheets of rain. He had been by the nose wheel calling the blades during engine start and we had rolled several feet. Hopefully there had been no tug on the nose wheel or surge in the props. But why no answer?

"Boom, this is pilot," I called. "Go out the aft door and check on the crew chief." How had I missed that point on the checklist? How many seconds had I saved? No point in hurrying now.

"Pilot, this is boom. Crew chief is OK; he's in the truck. Boom operator ready to taxi." I breathe deeply with relief. The disaster I had visualized had been averted, with no thanks to myself. The other aircraft are well ahead, down the taxiway, as I release the brakes to continue taxiing. Slowly and cautiously, this time.

It would be an understatement to say that this incident caused me to view more critically the day to day hazards of alert operations. For many crew members, alert duty has become the normal type of crew duty; but it must be recognized that alert crews should respond correctly as well as instantaneously in every alert action. There is no tolerance for wasted time or motion. Neither is there tolerance for errors which jeopardize the safety and therefore the effectiveness of the alert assignment.

Some hazards result from short-cuts devised to shave seconds from alert timing. The practice of leaving the B-47 flap handle **down** when cocking was recently revealed. When power was applied during alerts the flaps were automatically set for takeoff without diverting the pilot's attention. But, one day a maintenance crew parked a truck under the wing to unload some equipment and applied power to the aircraft. **Crunch.** You guessed it—a bent bird.

A few pilots admit they begin their alert starts by hitting number four engine start switch before they clear with the ground crewman. Yet, they agree it would be dangerous if the dust plugs weren't removed or if fire occurred and a fireguard wasn't ready.

One tanker crew pulls all four chocks before engine start. Another starts engines before either pilot rechecks the parking brakes. Brake pressure has been known to bleed off overnight, and there are cases of inadvertent aircraft movement when these short-cuts were employed. Short-cuts may save time if time is all important. But of what value is speedy reaction if a needless accident compromises your mission?

"Clear ground crewman!" the copilot yells. My feet slam the brake pedals; the nose dips with a jolt. "Ground, this is pilot."

Fortunately, most SAC crew members conscientiously abide by their flight handbook and established alert procedures.

Serious hazards are also produced by the emotional stress of being "spring loaded to the GO position" for long periods. Not many troops can really play it cool when the klaxon blasts them out of bed. Despite a sometimes calm appearance, many are likely to be supercharged with tension and thus prone to errors of omission. My own experience in the beginning of this article is a typical example of a key checklist item overlooked through haste and divided attention. Happily, the crew chief had been observant and had remained clear of the props and tires. It is easy to imagine the disastrous results had the confusion of engine noise, darkness, wind and rain distracted him from noticing the aircraft movement.

A similar example is the B-47 which taxied and dragged along the still connected external power unit. Or, the recurring occasions of aircraft Cocoing with pitot covers still on. Would the seconds saved by hurry-hurry action have paid off if the alert had been a launch?

Accidents, while taxiing, are still another hazard. Recently, one aircraft pulled out of the parking area directly into a closely-spaced stream of taxiing aircraft. Many near-miss panic stops occurred. Another time during a night response, the pilot of the aircraft on Charlie Spot noted that the aircraft on Bravo Spot was not moving and advanced his throttles to taxi. He did not know that the Bravo aircraft had power up and actually began to move five seconds before he did. After his aircraft began to roll, he looked to his left and saw that Bravo was also moving. He decided to start an early right turn, believing that this would place his aircraft ahead of the Bravo tanker. The two aircraft converged and Charlie's left wing tip cut through the forward fuselage of Bravo, causing an intense fire. With its pilots disabled, the Bravo aircraft accelerated in a curved path, striking Charlie's burning wing tip and continuing off the hard surface, coming to rest in the soft mud. The aircraft commander, pilot, and navigator of the Bravo aircraft received fatal injuries. The boom operator, crew chief, and the crew of the Charlie aircraft escaped uninjured. What causes such incidents? Perhaps pilots concentrate so intently on making their timing that they fail to recognize dangerous situations.

On the positive side of the picture are the many crews who are consistently safety-minded in their alert activities. In spite of stress, they operate their aircraft with safety. What can we learn from their success? First, we can recognize and understand our own limitations during alerts. Being aware of the inherent tendency to hurry and "max" the timing, we can act more carefully and deliberately. Next, we can isolate any short-cuts and revise them in favor of safety. If the short-cut is really worthwhile, let's have it included in standard alert procedures. Finally, both aircrews and ground crews can realize the tendency toward distraction during alerts and be prepared for the unexpected. How can we improve timing without compromising alert capability? Alert safety is the answer.

Anchor Refuelings

Maj Al Parris
93 AREFS, Castle AFB

Refueling fighters is one of the most interesting and challenging parts of being a tanker crew member. Interesting because they look really impressive parked off your wingtip—challenging because fighter refuelings are never the same. The actual refueling itself is usually anti-climactic—the boom plugs him, you turn on the pumps, he gets his gas and leaves. The challenging part is getting him from "out there" somewhere to precontact. If you could rendezvous and refuel with one set of fighters at a time there would be little problem; but almost invariably, just as you get a contact the nav says to turn, the GCI says to continue straight ahead, another set of fighters yell at GCI because they want their gas NOW, the boom operator is muttering unprintable epithets about the "cowboys" on the boom, and the Navy briefs on GUARD. Oftentimes it seems the rest of the refueling is a rehash of Abbott and Costello's "Who's on First?" A lot of this is beyond our control, but we often create some of our own problems through lack of effective mission planning and crew coordination.

Mission planning is the ideal time to get familiar with the anchor area. Don't just take a cursory glance at the nav's chart—Look at it! See if there are any natural or man-made features (mountains, lakes, highways, cities, etc.,) you can use to help stay oriented in the area. Where are the MOA's or restricted areas the fighters will most likely be operating? Where's their launch base in relation to you and the MOA's? What's their command post's call sign and frequency in the IFR sup? How's the anchor oriented in relation to nearby Navaids? Now is the time to plot some TACAN fixes to help back up the nav and GCI. Pilots and the nav need to discuss how to set up the INS. If the pilot can use a TACAN radial for one side of the area, have the nav set up the other side in the INS so the pilot can see it on the HSI. This way the pilots can tell at a glance if they're inside the area laterally. Determine the DME limits — what's the maximum and minimum you can have and still be inside your area? You can give the weather shop a call and get a rough idea of the winds and sky conditions you might expect. If it's going to be poor weather, determine a plan of attack. Let the nav discuss how the rendezvous will be conducted. Discuss whether or not you will allow the receivers to proceed down track if there are "chicks" on the boom. After discussing how it's supposed to go, tell the nav to use his judgment. If it starts to depart from the briefed plan, the nav should have an order of priorities and a back-up plan to follow. The nav should discuss how he intends to handle the situation, especially if things get rushed.

Don't forget to talk about the fuel panel, especially if the offload is large. Check the center of gravity limits for different configurations. Develop a sequence and stick to it. Let the boom operator brief the refueling plan. The boomer should concentrate on keeping the front end of the tanker informed. If a receiver looks good, say so. If he's erratic let us know. Many times everything sounds normal till the breakaway call splits the silence. Keeping everyone involved will help reconstruct events and improve future coordination. All this might seem like a lot to do, but it really isn't. Besides, it's much easier to do during mission planning than in-flight when everything starts getting screwy.

On the day of the flight, check with your command post for receiver status and call signs. You'll usually be taking off long before the receivers, so the command post might not be able to get info on their status, but give it a try anyway.

When you arrive at the anchor and center hands you over to the GCI, get all the ground rules established. Work out who will do the rendezvous—you, the receiver, or the GCI—and what type rendezvous you expect. Reconfirm air refueling frequencies and altitudes. Find out where the receivers will be coming from and reconfirm their call signs. Give GCI the winds aloft and the weather in the area. Coordinate how you want navigation within the area handled. Try to fly the orbit at least once. The nav should direct the turns, right on the black line. Check the visual references and landmarks and stay oriented in the area. This seems like a lot to get done, but it only takes a couple of minutes.

One technique that works well here is to have the navigator talk to the GCI. About all the GCI will now give you is navigation or rendezvous information, both of which are the nav's specialties. Listen to the radio chatter. When the navigator responds to directions from GCI, provide a visible head nod. No interphone call is required if the nav sees your nod. This will free the pilots for the actual refueling work.

Get all of this preliminary information taken care of before you start any air refueling. Don't let the GCI or receivers rush you into something you're not ready for.

When everything is squared away, let the GCI bring on the receivers. As soon as the fighters come up on A/R frequency ensure their "nose is cold" and check their altitude, reconfirm the offload and get their end A/R request. If the GCI brings up more receivers while you're still refueling, have them park about a mile in trail until you're through with the ones that are already with you. Just keep them out of the way!

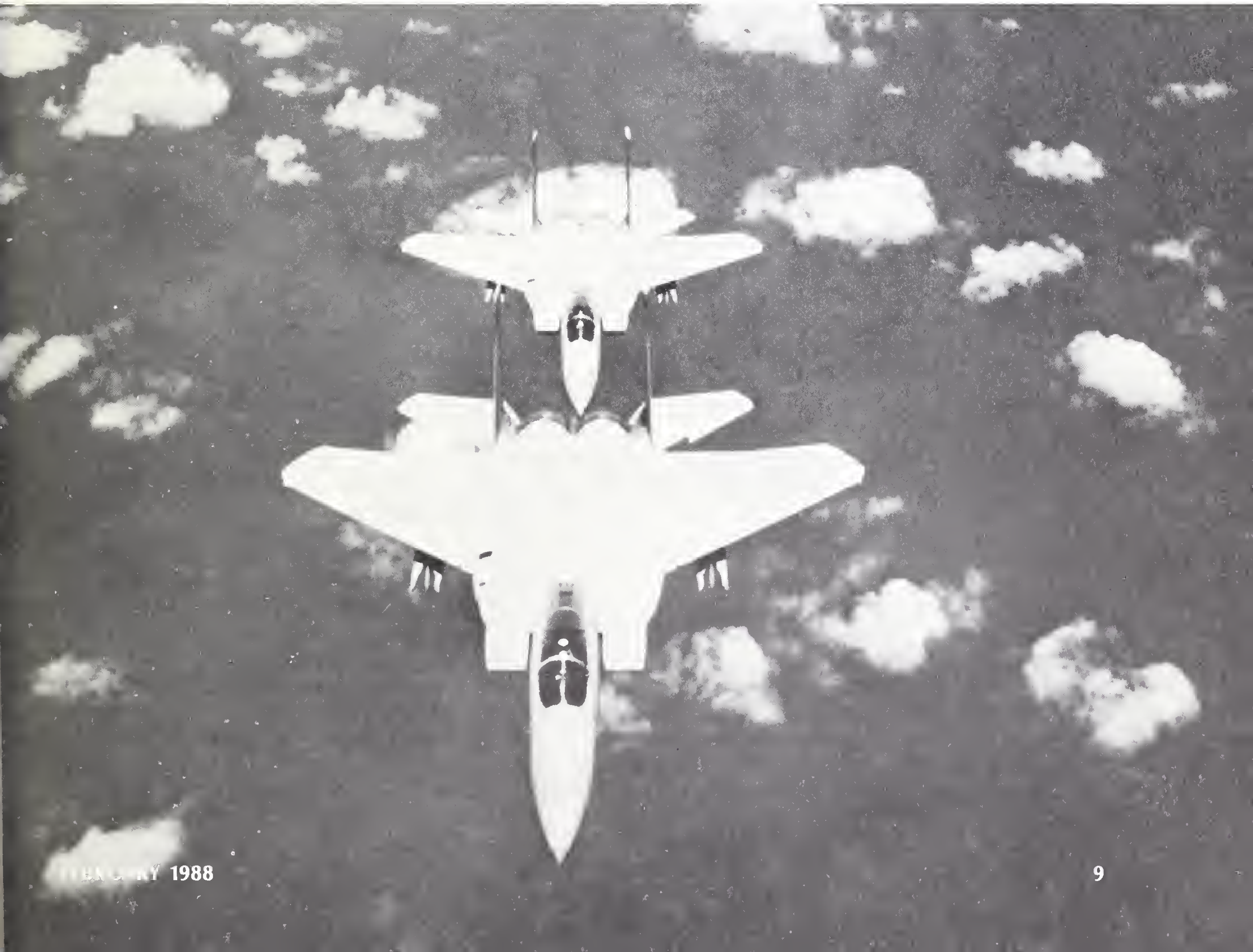
How much bank do you use while the receivers are in tow? That's easy—as much as it takes. Don't fly out of the area. If 15 works, use it—if it takes 30 use it. The fighters don't care how much bank you use or what heading you're turning to. If you need to turn, a technique is to look at the guy on the left wing, key the mike and say, "Tank 13 is coming left." Keep eye contact with the wingman as you start the turn and then smoothly roll to my predetermined bank angle. If you are turning right, have the pilot watch the wingman. The same technique works when rolling out of a turn. You might argue the radio call isn't necessary. Assuming he's watching you as you start the turn, you're absolutely correct. (What's that adage about assumptions though?)

What's the nav doing all this time? Making sure GCI doesn't get you violated. Just because the other guy has the navigation, don't let up. You know a lot more about tanker capabilities than GCI does, so don't let the controller make a mistake that gets you in trouble.

Remember, the tanker crew is in charge of this whole operation. The GCI isn't, the receivers aren't—YOU are. If things aren't going the way they should simply call a time out, get everyone squared away, and then start again.

The only way to enjoy anchor refuelings is through planning and preparation. Without it, the most enjoyable phase can turn into a nightmare. **Fly Safe, Fly Smart.**

Refueling fighters can be one of the most interesting and challenging parts of being a tanker crew member. They look impressive parked off your wingtips, but remember, fighter refuelings are never the same.



There I Was. . .

Maj Jim Kristl
Editor

I was feeling pretty good about flying. Heck, I had almost 200 hours in the –135 and I could get through the checklist without too much trouble. I had even been TDY so there didn't seem too much left to learn as a pilot. All I had to do now was build up enough time to upgrade.

Being a right seat pilot is great because you're not experienced enough to really be held responsible for most of the stuff that happens during a mission. It's a chance to learn about flying and about running a crew.

Each flight is a challenge when you are new in an aircraft and this one promised to be no exception. It was a heavyweight offload to a bunch of thirsty –111's that would be looking for gas before and after their training mission to the range. We would be operating out of an anchor. No big deal. All that angels stuff and port or starboard were old hat to me by now. It was going to be another six hours closer to upgrade.

Our crew had been together through a TDY and we did a pretty good job of working together. As we finished our briefing, the AC double-checked the flying schedule for the current intel.

"Let's see. One evaluator's on leave. One's on alert. So that leaves one more and it looks like he's flying. Great. Well, the pilots are safe."

"Nav, there are two evaluators available for you. So be ready."

"No sweat, Ace."

Well, the next morning at base ops, the nav saw his luck run out. The toughest evaluator in Stan/Eval decided to hop on and no-notice his activity.

We weren't exactly in the clear either. My AC had thoroughly briefed me on the concept of "non specialty busts." So I remembered to watch myself.

The takeoff went fine and we flew the SID right on out toward the anchor area. It would take us an hour to get there. I settled down to the paperwork and checklists. I was so busy the hour passed quickly. We entered the area and contacted GCI. No joy, oh well we can handle it. I tuned in the TACAN and dialed in our radial. The nav set up our orbit just like we had briefed the day before. Man, this was easy. I wish my checkrides could go like this.

The first set of receivers was due in about 20 minutes so the nav turned us a bit short. As we rolled into the turn with the autopilot on, it felt like something hit us in the shoulder. The AC immediately looked at me and asked if I had hit the yoke.

"Not me. I'm clean, didn't touch a thing."

As we continued the turn the radios got busy. The fighters wanted clearance down track. The nav took over the radios and started to sort things out with the receivers. I switched to monitor center. As we rolled out, we got bumped again.

"Are you sure you didn't touch that yoke?"

"Positive, my hands were clear." For some reason, the AC was convinced I was trying to have some fun.

"Hey AC, the fighters are inbound, let's go get them."

"Sounds good, nav. Hey boom, you up?"

"Boom's in the pod. Hey AC, you guys trying something funny in the turns?"

"No, boom, I think the pilot's trying to be cute."

I was busy posting the MRT and I just shook my head.

"Turn in five miles, copy AC?"

"Copy, nav."

"Start your turn, roll out heading 277."

"Rog."

I was unaware that the AC was watching me out of the corner of his eye as he rolled into the turn. My one hand was on the checklist and other was on the window as we got bumped again.

As soon as it happened I stopped what I was doing to say I was clean again, but the AC was already convinced that I was not the culprit. If it wasn't me, who then?

The nav called half way through the turn when it started again. We thought it was the autopilot. Every time we turned that knob we would get kicked in the shoulder. We started to roll out about two miles in front of our receivers when the kicking started to get real bad. The indices checked good. The EN offered to check off and go back to scan the engines. The AC told him he could go, but we didn't expect him to see anything.

"Holy cow, hey AC, this is the EN, you've got some pretty big flames shooting out of that engine."

The engine instruments were fine! The kicking was starting to get bad, and the airplane was shuddering with each belch.

"You better go ahead and shut it down, AC. It's number one.

The AC reached up and pulled the throttle to idle and then cut off. The kicking got worse.

"Oh nuts, I'm sorry all to hell ACE, I meant number four."

Great.

The AC reached up and quickly shut down number four also.

"Hey boxcar 50, you guys okay up there?" the flight lead asked.

"Just hang back for now, we're working a problem."

A 220,000 pound aircraft does not maintain altitude very well with two engines shut down. Honest. We started a slow descent as the airspeed started to drop off.

"Pilot, run the air start checklist; boom, hold those receivers off. Nav, tell center we need a bigger block."

Run the airstart checklist. What's an airstart checklist? I started to fumble with the checklist index to see if I could find it.

Got it!

Okay, let's see. Throttles already cut off, fireswitch was never pulled. Airspeed! Airspeed, what the heck does that mean? I remembered vaguely a remark an instructor made in a simulator. Something about an airspeed envelope. I figured at 305 we were pretty safe (I also crossed my fingers).

"Hey AC, flight start on the switches."

The rpm checked good so I brought the throttle to idle. It didn't take long to light and slowly came up. I let it stabilize and gave it to the AC.

We were not out of the woods yet. We were still in a heavyweight aircraft with one engine shut down. I got clearance home, while the nav sent the receivers away and called control. We had plenty of time to go over our plan as we headed home. Fortunately we were given clearance to adjust our gross weight. Here's something else I hadn't done before. It was only 60,000 pounds, but it was more than I had ever considered doing before. It sure took longer than in the sim.

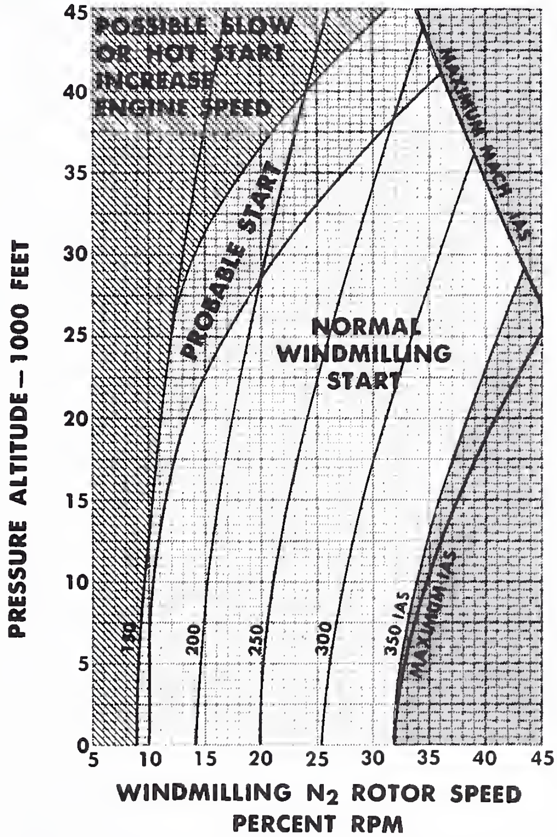
Our crew quickly discovered we did not have the appropriate fuel dump form in our mission package. The EN helped by making sure we gathered the appropriate information. Anyone who thinks they know all about fuel dumping by just talking about it is in for a surprise when they actually have to do it.

Our flight ended uneventfully. Post flight inspection revealed that we had lost the main turbine shaft. Every time we turned we applied some torque to the shaft until it finally failed on our last turn to track.

After the excitement died down. I went to reread Section 3 for more information on airstarts. I also saw the airstart airspeed chart for the first time. It made a whole lot more sense now. I also made a copy to carry in my checklist.

AIR START ENVELOPE

ALL ENGINES



I guess I learned to appreciate putting myself in realistic scenarios in the simulators and in studying the Dash-One. The airspeed chart didn't seem to make much sense till I started to consider things like refueling airspeeds, cruise airspeeds and the like. I also learned to face forward when I count the engines. Finally, it seems you can never have too much experience in the aircraft when it comes to an inflight emergency, because somehow things are a little more interesting than in the simulator.

Refused Landings

Capt Kirbie Lambert
CFIC, Castle AFB

Over the years, SAC has experienced damage to aircraft that have left the confines of the runway during the landing ground roll. An example that comes to mind occurred when a KC-135 landed on an icy runway, experienced very little braking action and slid into the lights on the departure end. When the AC was asked why he didn't take it around he replied, "I didn't brief touch and go procedures."

The purpose of this article is to provide information concerning actions to take when it is apparent after touchdown that the aircraft cannot be stopped within the confines of the runway. Before discussing the proper steps to execute a refused landing, it is important to define what it isn't. A refused landing is not an "ace-in-the-hole" to be played when landing distances are critical or when attempting to salvage a bad approach and landing. If the landing ground roll is found to be critical, proceed to a suitable alternate. If the approach is bad or the landing long, don't hesitate to execute a go around. A refused landing applies when it does not appear possible to stop in the available runway following a good approach and landing. There are several reasons why a refused landing should not be viewed as a normal, safe procedure. It is not a proficiency item for pilots. It is used at CFIC to demonstrate proper procedures and low speed handling characteristics. The procedural steps are based on everything working right. The engines must respond and accelerate evenly. Any delay could lead to a potentially more dangerous situation. The rotation is radically different from normal procedures and can cause problems if not executed properly. Finally the decision point is critical and must be made early enough to allow time to complete the maneuver. You will not have time on the runway to suddenly recognize your predicament, check to see if you can make it, and start to execute the procedures. The following procedure should only be used as a last resort. The only data discussed pertains to the KC-135A, and even some of that data is not flight tested. The refused landing concept does not apply to the 135R model because the engines spin down to ground idle ten seconds after the pilot pulls them to idle. Once the engines spin down it takes at least 25 seconds to accelerate back to go-around power. Imagine yourself in the following situation:

Wet runway	**RCR 09**	**Threshold speed**	**136**
Gross Wt.	**160,000**	**50 Flap Appr. Spd.**	**140**
Temp	**60°F.**	**Ground Run**	**6525**
PA	**100**	**Flare Dist.**	**1700**

After landing, despite a good touchdown, the aircraft begins to hydroplane and you decide that you won't be able to stop in the confines of the runway. With 4000 ft. of runway remaining and 100 KIAS, you decide to go around (refuse the landing).

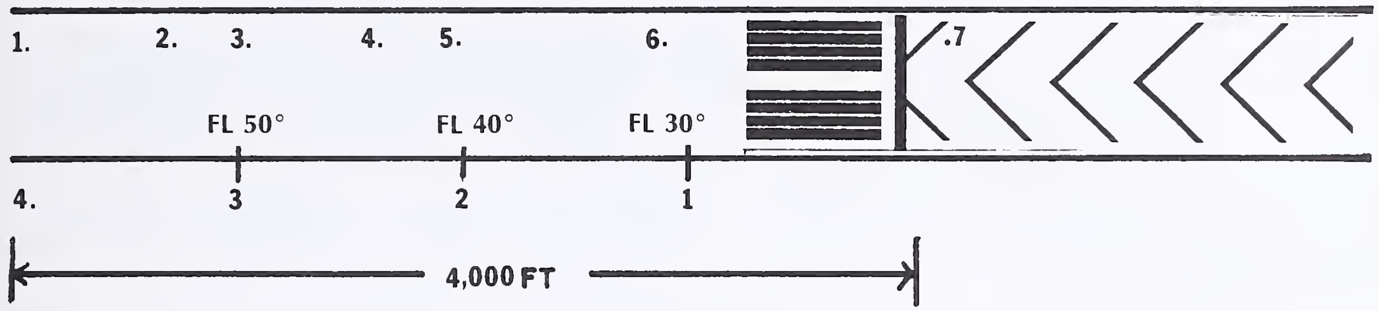
Ask a group of pilots what they would do in the above situation, and you usually hear, "I would execute touch and go procedures." In the only study accomplished by CFIC with the assistance of Boeing engineers for the 135A model, the results demonstrate it would take approximately 24 seconds to accomplish all touch and go steps and accelerate to minimum rotate speed. At 100 KIAS the aircraft speed is 168 feet per second (fps). The engineers calculated it would take approximately 16 seconds before the aircraft actually begins to accelerate, or approximately 2688 feet of runway. During the remaining eight seconds of the 24 seconds the aircraft is traveling, on average, 195 fps. This uses up an additional 1560 feet of runway, for a total of 4248 feet, just to get to a good rotation speed.

Figure 1 offers a graphic representation of the approximate timetable of actions on the runway:

Point 1	**Decide - 2 sec**
Point 2	**Speed Brakes - 2 sec**
Point 3	**Flaps to 30 - 2 sec**
Point 4	**Trim - 3 sec**
Point 5	**Stand the power up**
Point 6	**Power - 7 sec**
Point 7	**Accel to VTH-5 (131 kts) - 8 sec**
Point 8	**No room to rotate!**

The obvious conclusion is that touch and go procedures in the above situation would not allow you enough room to rotate and get airborne. Therefore, trying to accomplish touch and go procedures in this situation is not the thing to do. We can get the aircraft off the runway sooner if we refuse the landing. Here's a list of steps required to refuse a landing:

- **Decide to Takeoff**—the decision to refuse the landing must be made with enough runway remaining to safely get the aircraft airborne. Any hesitation can be costly. Preparation is the key.
- **Apply Power-Full Throttle**—not touch and go EPR. This is the crucial step after the decision is made. Because of slow engine acceleration time you must add power first.
- **Accelerate**—to a safe flying speed



(FIGURE 1.)

(reference speed minus 5 kts). Get rid of those speed brakes. Remember that the warning horn will continue to sound as you accelerate down the runway, because the number three throttle is advanced and the flaps are at 50 degrees rather than the normal 20 to 30 degrees used for takeoff.

- **Establish the Landing Attitude**—establish the landing attitude picture two - three degrees on the ADI and when the aircraft reaches flying airspeed it will fly off the runway. **Do Not Rotate To Eight - Nine Degrees.** There is a good chance you might drag the boom or the tail and there may be too much induced drag to permit the aircraft to accelerate. After the aircraft becomes airborne and a positive rate of climb has been established, complete the go around procedures.

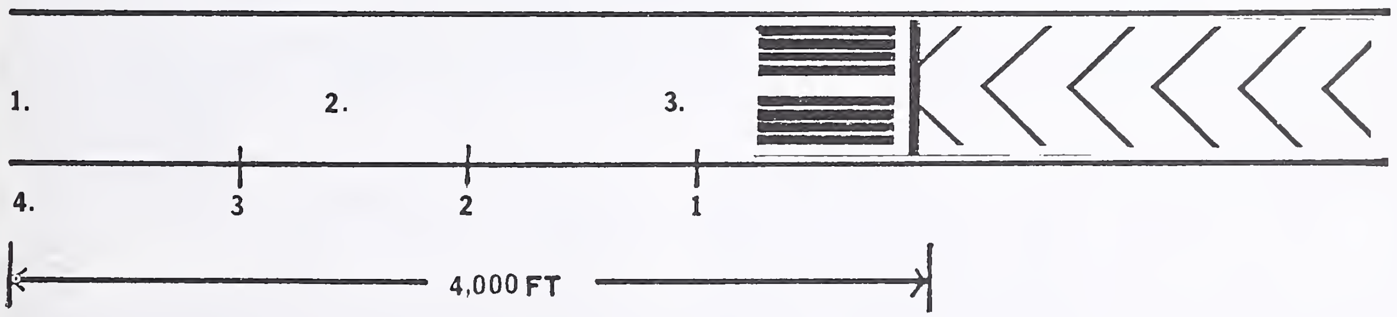
Figure 2 shows a timetable for a properly refused landing:

Point 1 Decide - 2 sec
Point 2 Power - 7 sec
Horn will sound. Speed Brakes ZERO
Point 3 Accelerate to VREF - 5kts - 6 sec
Point 4 Rotate to Landing Attitude - 2 sec
After Airborne:
Point 5 Flaps to 30
Point 6 Gear Up

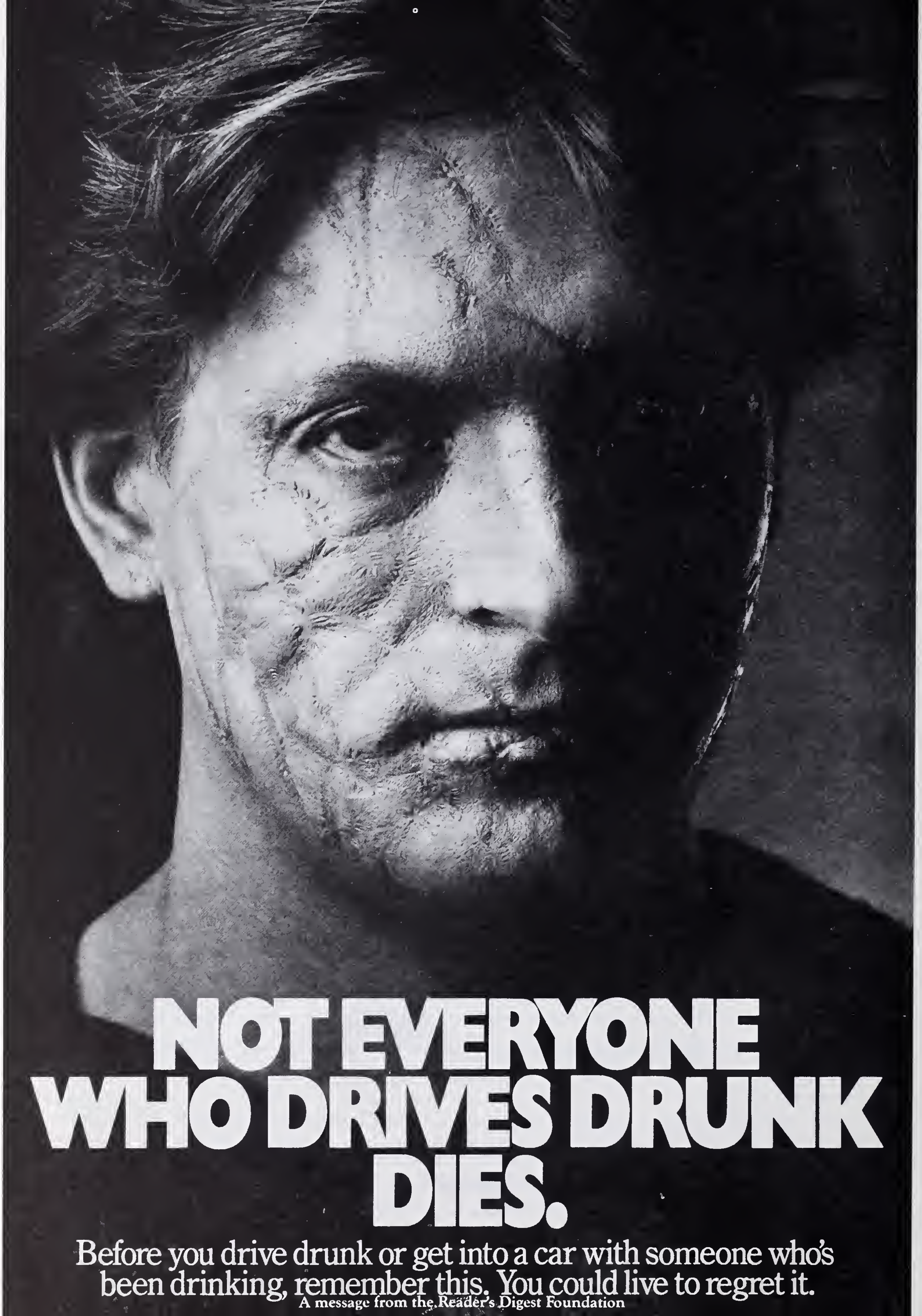
Since power takes the longest you must add power first!

It will take approximately 17 seconds to complete the steps. Average velocity using refused landing procedures (100-131 kts) is 115.5 kts, which equates to 195 fps. It will take approximately 3315 feet to get the aircraft airborne. Normally, you can get the aircraft airborne in 2500 to 3500 feet, depending on gross weight. Remember, however, the distance will vary based on the specific performance factors.

Every pilot must have a plan in mind should he/she find that they cannot stop within the confines of the runway. Have a "decision point" in mind and make the decision early. Remember, if your approach is bad or you are going to land long, don't hesitate to take the aircraft around. Review these steps with your training flight and put them in your hip pocket for a rainy day. Refused landing practice is a CFIC maneuver only. Preparation is the key. If you land in the first third of the runway, after a well flown approach, on speed, chances are you will never have to use the refused landing procedures. Remember there is no substitute for a good approach and landing. The refused landing is a last resort.



(FIGURE 2.)



Before you drive drunk or get into a car with someone who's been drinking, remember this. You could live to regret it.

A message from the Reader's Digest Foundation

Rolling and Rolling and Rolling. . .

A1C John Simmons as told to MSgt J. M. Hammonds

"Saturday was a pretty nice day. It had rained the day before, but we were graced with a sunny day on Saturday. I had a 1982 sports car that I bought about eight months before in March, soon after arriving on base. I have a habit of keeping it looking clean, so my friend and I both washed our cars that day to get rid of the streaks from the rain the day before. My car was clean and ready to go."

So begins A1C John Simmons' tale of his misadventures on the day of 24 Oct 1987. The 22-year old airman is assigned to the 392 Communications Group at Vandenberg AFB. On the afternoon of that fateful day Airman Simmons and another Air Force airman passenger were involved in a high speed, rollover vehicle mishap. The manner by which A1C Simmons escaped serious injury in the crash is perhaps best explained in his own words.

"We had made plans to play a little racquetball that day, and later on to go to a barbecue that my shop was having. A good way to spend such a nice day. We got finished a little early and still had some time to spare. The barbecue wasn't going to start for a while and we were both hungry so we decided to go into Lompoc to pick up some burgers.

"Before we left I took the T-tops off and rolled the windows all the way down to enjoy the warm sun. The weather was so nice. The drive felt good. The wind felt good as it just flowed over us. I don't remember the exact area where the accident happened. . . it just suddenly happened.

"I remember somehow feeling that the road felt wet, or slick or something, but I just didn't have any control. I didn't panic. I count that as a blessing. I kept trying to regain control, then I just realized that I was not going to be able to get control. I told my friend to hold on. I knew I couldn't stop it. It seemed like I was fighting it for about three to five seconds, trying to get my car back in control, but I'm not sure of the time. Then we were rolling. And rolling and rolling. . .

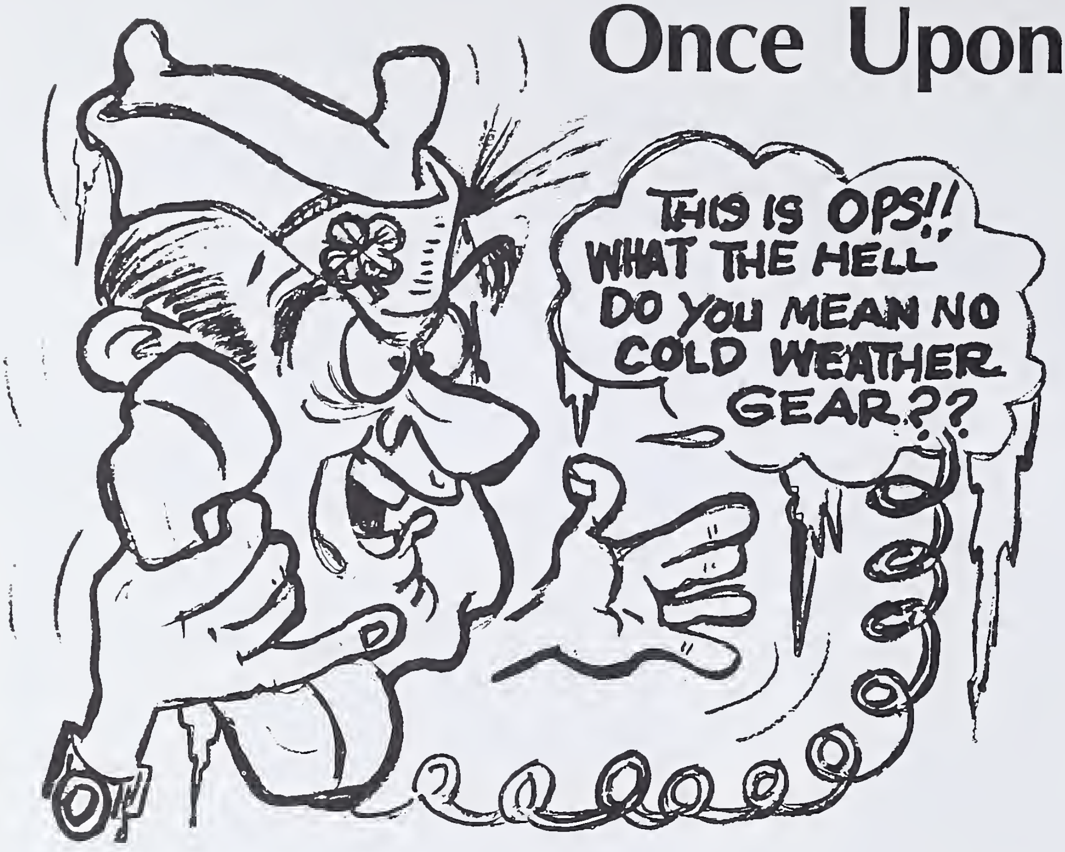
" 'Hold on!' That's all I could say. I remember thinking, when is this car ever going to stop rolling? It seemed like it was going to roll forever. Finally it stopped.

"I know it sounds like an old saying, but once the car stopped rolling, everything seemed like it was a movie. Just suddenly, everybody was there. People were trying to help. People were everywhere. The police and ambulance came screaming up. Emergency medical people were checking us over. They were fitting a padded collar on me, and I could see someone else putting a collar on my friend. They were doing everything so carefully. We were both conscious. I was sort of going into shock. I've seen a lot of TV shows and movies where the car rolls and then goes up in flame. All I wanted to do was get out of the car. Next, they were putting me in an ambulance. I could still see my friend in the car. They were having trouble prying the passenger door open. I stayed conscious throughout the exam in the emergency room. I was confused, but I was conscious. . . and alive!

". . . once the car stopped rolling, everything seemed like it was a movie. . . suddenly. . . people were everywhere. Emergency medical people were checking us over. They were fitting a padded collar on me, and I could see someone else putting a collar on my friend. They were doing everything so carefully."

"The only thing that saved us was God and our seat belts. I believe that. We had the T-tops off, the windows rolled down, and we were moving when we started to roll. The only thing that kept us from being thrown out were the seat belts. Before I came into the Air Force, seat belts were a sometime thing. Sometimes I'd remember to wear them, sometimes I'd forget. Since I've been in the Air Force there's constant pressure to wear the seat belts. You get used to wearing them just so everybody will leave you alone. Now it's just become second nature to me to put them on. A habit. I thank God I had the habit."

Editor's Note: A1C Simmons sustained a strained neck and a small laceration to his head as a result of the mishap; his passenger received three fractured cervical vertebrae.


THIS IS OPS!! WHAT THE HELL DO YOU MEAN NO COLD WEATHER GEAR??

Once Upon A Time In the Winter

Maj Richard G. Innes
97 AREFS, Blytheville AFB

The phone conversation below never occurred, but many will recognize elements of past incidents in this wintertime tale. The author hopes this story remains purely fiction.

AC: Col Ops? Yes sir, we are on the ground at Barksdale.

OPS: How's the crew?

AC: OK, but the plane is another story. I'll start from the beginning.

We got up to Loring OK, and went into crew rest right away. I called the Aircraft Readiness Center and the FSA/CAS depot. Both said the plane would be ready for our takeoff time.

We got to base ops with plenty of time to do a cold weather preflight. Metro pegged the weather for takeoff just right: light winds, ceiling at 10,000 feet. The only problem was the temperature — minus 25 degrees.

OPS: Sounds pretty good for Loring.

AC: Well, the whole crew forgot that Loring is a Zone 3 airfield, and none of us had our Nomex hoods or mukluks. I called job control and asked them if they were heating the cockpit, and they said yes, so I figured we could survive without the cold weather stuff.

OPS: Pretty dumb not to take full winter gear to Loring. Didn't anyone on the crew question that?

AC: After we got there, the boom said he thought I had decided not to take our stuff to cut down on our gear in the commercial airliner. I wish he had asked a little earlier, like before we left home.

Anyway, when we briefed with Metro, they said there was a pretty good cold front approaching Blytheville, but it was not going to reach the field until five hours after our planned landing. Until then, weather would be just like Loring's, except 55 degrees warmer! We got this brief two hours before takeoff.

As you know, the mission was planned for three hours enroute to the ARCP for AR 315. We were going to run the track east and west with a C-5 and go direct to Blytheville for landing. We would be landing at 2300L.

OPS: So what went wrong?

AC: We left base ops 1+40 prior to takeoff because the plane was parked outside. I wanted extra time to be sure the plane was de-iced and to checkout the flight controls. I also knew we would need to take time to warm up the hydraulic system. At minus 25 degrees, the procedure requires seven minutes of running time on the AR pumps plus one more minute to cycle the speed brakes and the powered rudder. And you can't even begin the procedure until all of the engines are started.

OPS: You're right it can be time consuming.

AC: Things deteriorated quickly once we got to the plane. The heater for the cockpit had failed right after the crew chief started it. He had called for a replacement, but it was not there when we arrived. Boy, was it cold in that plane! I really missed my hood, and I thought my feet were going to get frostbite.

We started the interior inspection, and noticed a bad J-4. We called for maintenance about the same time the second heater arrived. The heat felt great!

I spotted a check fuel status message and learned the brand new fuel panel had failed — all dashes on the number four main and reserve tanks. This happened two minutes before the second heater quit.

OPS: Sounds like a checkride.

AC: There were two hours of delays until both problems were tracked down to damaged wires in the wings caused by the FSA/CAS mod.

We contacted the receiver unit and slipped the ARCT two hours and finally got out of Loring 2+20 late.

OPS: How about the heat? Did you go to base ops?

AC: No, never had time.

We finally got a heater that worked, but the crew was frozen by then. I think everyone was starting to think slowly.

OPS: Kind of scary. Remember the crew that crashed a few years ago when they got cold soaked in the plane. Getting too cold can definitely affect crew efficiency. You should have demanded a heater or gone somewhere warm. Did you update weather before takeoff?

AC: No, we forgot in the haste of fixing the plane and trying to keep warm. Besides, the bad weather was not due to hit the field until three hours after our revised landing time.

OPS: You know AFR 60-16 requires you to get weather as close as practical to takeoff time. In the winter when you get delayed at the plane, especially on a long flight, you need to get an update BEFORE you take off. How did the refueling go?

AC: Smooth as silk. The nav had a super rendezvous. The C-5 guys were all qualified. Things got bad after AR. I told the pilot to get a weather update after we left Loring, but he got so busy trying to cope with Boston and New York Center that we both forgot.

OPS: You mean you didn't update the weather until after AR! You really did not go nine hours without an update?

AC: Uh, I guess we did.

OPS: Why not clear off center frequency to talk to Metro? Or how about the nav going on HF for a phone patch? When a front is coming you really need to stay more on top of the situation.

AC: I know. We got Blytheville Metro on the horn about 25 minutes out and noticed we were light on fuel.

OPS: I thought you had plenty of gas.

AC: We did, but we got off 20 minutes late and the jet stream winds picked up. I had to do 500 true all the way to the ARCP. Also the receiver wanted extra fuel, and I guess we got a bit generous.

OPS: Not when the weather is deteriorating.

AC: I guess we were a bit cold soaked in the head. Metro gave us the bad news. The front sped up and grew in intensity. The field was 600 and three in light snow. There wasn't much accumulation and they thought we could get in.

We started on down and decided to use engine anti-ice, but we didn't get it on 10,000 feet above the icing layer because we hit ice right away. I should have turned it on before we started down. That way the boom operator might have spotted the popped number four engine anti-ice circuit breaker. We were so rushed at Loring that I forgot to check the anti-ice on the ground before takeoff, so we don't know when it popped.

The pilot saw ice on the number four engine inlet. It happened at the same time I saw the Number four EPR going out of sight. Pt2 probe icing. Well, as we yelled about the ice the boom caught the popped breaker and reset it without telling me.

OPS: That's like turning the anti-ice on. Was the ignition on?

AC: No, the boom reacted too quickly. I didn't get a chance to reduce power on that engine before the ice broke off. It must have gone in one big chuck, because the next thing I knew we were getting horrendous compressor stalls and the EGT went out of limits. We were getting very serious vibrations and I had to shut down the engine. After I did, the oil pressure went to zero and the rotor seized.

OPS: What did you do next?

AC: We cleaned up the Engine Fire or Failure During Flight checklist and let the command post know. They informed us that the visibility was dropping as the snow fell, but Foxtrot said the runway was not too bad and he thought we could get in if we hurried.

We hurried. Alpha got on the Hotel conference and we had a landing o.k. almost as soon as the FSA/CAS punched out the numbers. Fox even had an RCR for us when we called. An RCR of 11 didn't sound too bad.

OPS: Well, why didn't you land?

AC: The vis went to zippo when the snow really started down. It happened while we were about ten minutes out. They gave us a 4200 RVR when we started the approach, but the winds really picked up. All we saw was a glow in the gloom.

OPS: You really got my attention with your missed approach. But I really got upset when you set off for Barksdale without calling us.

AC: I think we were all just panicky by then. There we were with an engine out going missed approach from a field well below minimums. I figured it was going to cost us extra gas to get anywhere with just three engines. We knew Little Rock and Memphis were bad, but Barksdale had reasonably good weather.

OPS: But you cut Metro off before they had a chance to check their updates. That fast front caught Barksdale's forecaster by surprise, and they did not issue an amended forecast until just before you called. Our Metro guys did not have time to post it.

By the time we learned where you were headed, it was too late to send you anywhere else. We wanted to send you to Columbus AFB. They were open. Why did you wait so long to call us after your missed approach?

AC: I guess the number 1 UHF antenna iced up. We could not read anything on it until we got above the clouds on our way to Barksdale. We could not raise Metro either. We asked center for the latest weather at Barksdale, but it sounded like the old forecast. I guess we should have tried HF, but the Nav was too busy planning the route and the pilot had his hands full trying to pass a flight plan to Center. I guess he never heard of the DRAFT acronym.

(Dest,Route,Altitude,Fuel,Time)

I finally told him to get my plastic brains out and look up the diversion charts. He used the time and fuel to Barksdale to work a clearance for present position direct. I thought we were OK then.

OPS: We knew better then. Carswell had already gotten iced up, and we just had to pray that the ice would not beat you to Barksdale.

AC: It beat us by a few minutes. The SOF got caught by surprise and didn't have time to check the RCR.

The descent went fine, but we hit a strong wind shear on final, and I landed 4000 feet down the runway. Then the problems really began.

The runway was getting hit with freezing precip. Not a lot, but enough to really lower the RCR. I was slow to react to the constant anti-skid cycling until we were pretty far down the runway. I hit the brakes too hard, too soon. I held the pressure too long after the cycling started. I put three thousand feet of runway behind me before I started to brake properly. Because of the crosswind and the failed engine, I landed with flaps 40. We were so light by then, I probably could have used 50 flaps once the landing was assured. Anyway, we sailed off the runway into the overrun.

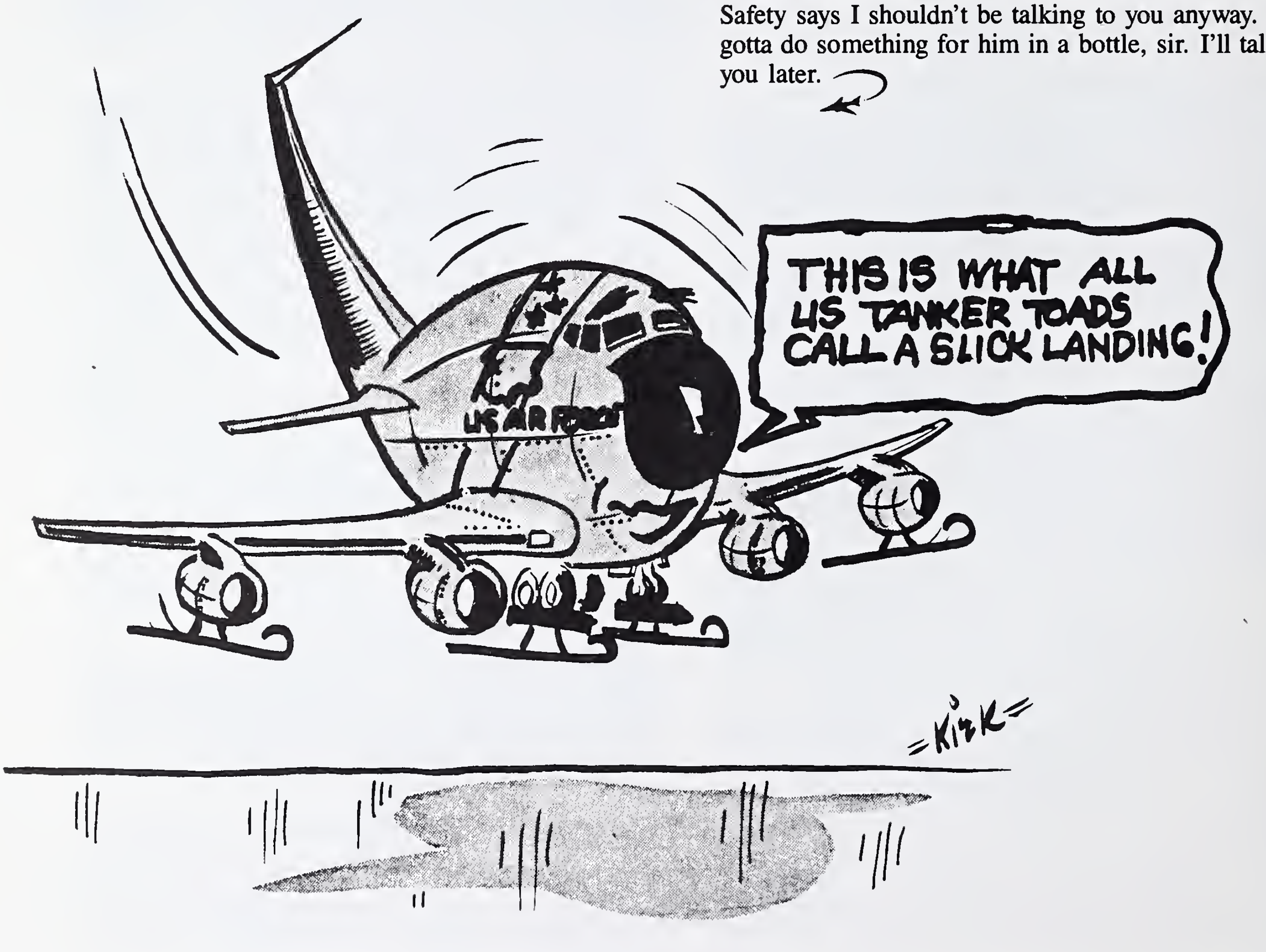
OPS: Did you stop before the end of the overrun?

AC: No, but I got it pretty well slowed down. We stopped really fast when we hit the first set of approach lights. I think that is when the tire blew. Sure did pepper the inboard flap. Looks like swiss cheese now.

OPS: What. How's the plane?

AC: Well the engine was shelled, the flap will need some work and you won't have to send a crew for a while to pick it up.

Uh, I gotta go. Some guy from the safety office is here. Says the flight surgeon will be here soon. They all got delayed by the bad streets. It's really icy now. Safety says I shouldn't be talking to you anyway. I've gotta do something for him in a bottle, sir. I'll talk to you later.


THIS IS WHAT ALL US TANKER TOADS CALL A SLICK LANDING!
US AIR FORCE
=KIRK=

Final Approach to ICAO

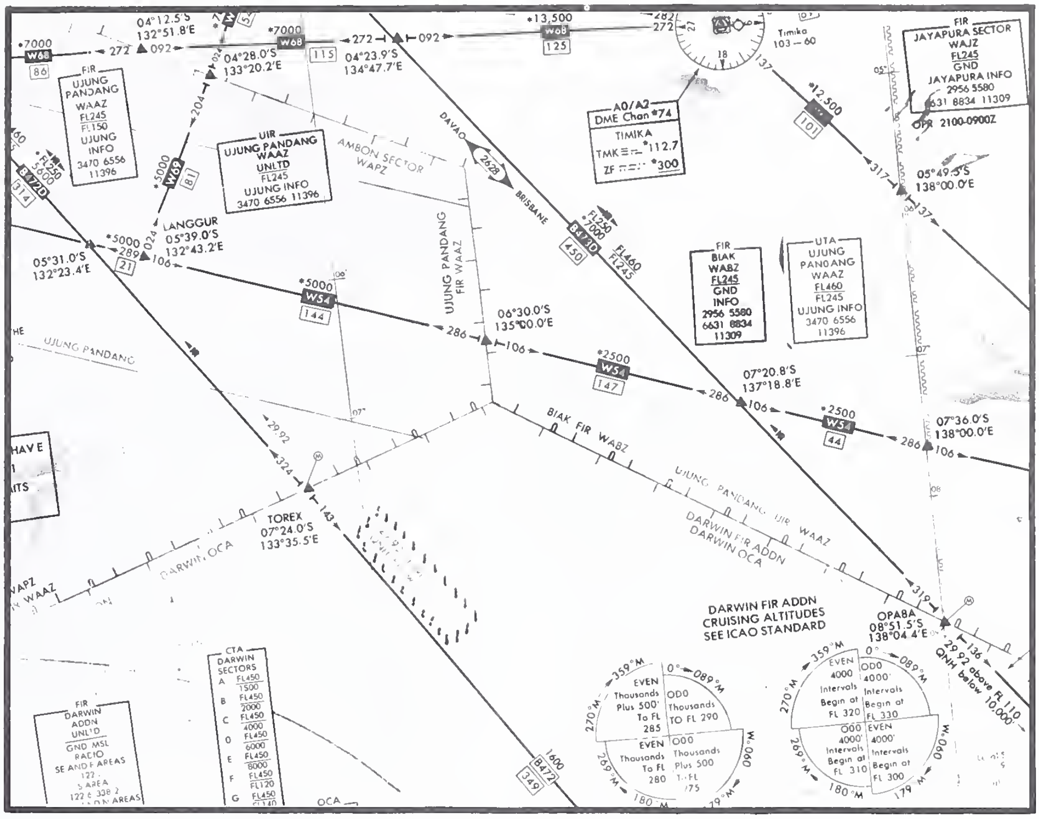


Figure 1

CROSS CHECK

Capt Pete Katsufrakis
SIFC

Over the past two months we have looked at the need for preplanning before flying in the unfamiliar environment of international and foreign airspace. In this last article of the series we will look at: the divisions of airspace in the world, how to identify controlled and uncontrolled airspace (and what actions to take in both airspace types), some definitions of altitudes, and the procedures for dealing with the different altimeter settings.

ICAO air traffic services differ from those in the United States. These services are organized into Flight Information Regions (FIR). A FIR is operated by a Flight Information Center or Area Control Center. When labeled simply FIR, such as BIAK FIR **figure 1)**, AIR TRAFFIC CONTROL IS NOT IMPLEMENTED (no ATC functions exist). Within the FIR Alerting Service and Flight Information Services are provided. The Alerting Service notifies appropriate agencies of an aircraft in need of search and rescue aid. Flight Information Service provides advice and information useful for the safe conduct of flight. This means we'll get information on SIGMETS, navaid status, airfield conditions, weather and traffic hazards. We can expect to hear information on traffic, such as "There is an aircraft operating along your route at 1,000′ AGL;" NOT "Climb to 1,500′ AGL to avoid traffic." If we want to change our route and/or altitude, it is our decision; however, we must let the facility providing the service know the changes so they can continue to provide Flight Information Service.

When the FIR airspace is also labeled as a Control Area (CTA) or Oceanic Control Area (OCA), such as Darwin OCA **(figure 1)**, AIR TRAFFIC CONTROL IS IMPLEMENTED. The CTA or OCA may not cover the entire airspace of the FIR laterally or vertically. Careful comparison of our route of flight to the enroute charts will determine when the aircraft will be in and out of controlled airspace. The Airspace Information section of the enroute chart legend defines the chart open areas (white) as controlled airspace, while shaded areas (brown) indicate uncontrolled airspace.

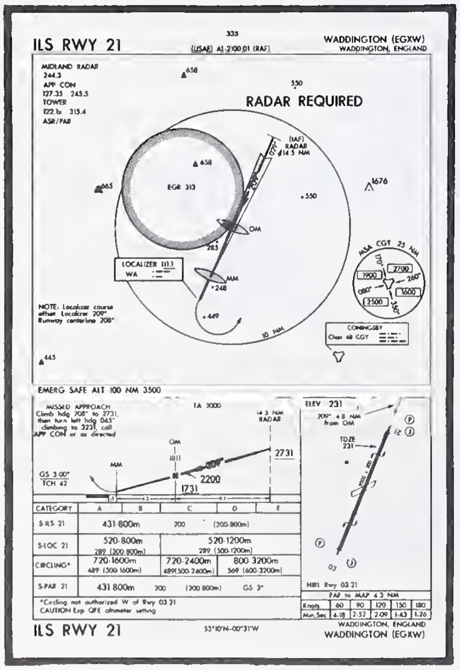
The final type of airspace is the Upper Information Region (UIR). The UIR serves the same function as an FIR, but encompasses the upper levels of several FIRs. One of the included FIRs will have responsibility for providing services in the UIR. When in a UIR and air traffic control is provided, the airspace will be labeled as an Upper Control Area (UTA). Researching the chart will help determine the lateral and vertical limits of the UIR or UTA. The bottom and top of the UIR or UTA are normally not consistent; so we may fly in the uncontrolled airspace of an FIR, then enter the controlled airspace of a UTA.

To tie this all together look at **(figure 1.)** On the left is the Ujung Pandang FIR and on the right the Biak FIR.

Since we do not find either of them listed as a CTA or OCA they are uncontrolled airspace. The altitudes are from FL150 to FL245 and from the ground to FL245 respectively. On top of that, both FIRs sit in the Ujung Pandang UIR. This UIR is effective from FL245 to unlimited. Notice that several portions of the UIR are also part of a UTA. This UTA applies from FL245 to FL460. Above and below this altitude block aircraft are outside of controlled airspace, but inside the block they are back under ATC control. Notice that most of the areas of the chart are white. This is because they are showing the most restrictive airspace. Some areas are still brown because in our example the controlled airspace borders the depicted airways, and the airways are not close enough for their controlled airspace to overlap. One last comment about the coloring on the charts. The airways depicted in brown are LF/MF airways. These airways are under ATC control, in controlled airspace, in spite of their brown coloring.

The last point of interest is that some countries include special procedures for military aircraft operating in their uncontrolled airspace. The nation may want to put some limits on the aircraft's ability to roam freely about their skies. For example, on low level routes in Australia, there are no route corridors set by the Australians. Since the airspace is in an FIR we should be able to go anywhere off track we wish, but the Australians state we must notify the Flight Information Center if we go more than 15 miles off centerline.

Figure 2



Let's look at altimeter setting other than in the good ole USA. Since the rest of the world deals in metric, we will most likely hear altimeter settings given in millibars or hectopascals (see FLIP para 6-18 for info); and to make matters even worse, some countries use QFE (the altimeter reads "O" when you land) instead of the familiar QNH. Fortunately, these differences can be dealt with relatively easily.

The millibars to inches conversion can be accomplished with the handy-dandy conversion chart found in the Flight Information Handbook (FIH). The QFE altimeter setting gives you the height above station. There are a number of techniques for dealing with a QFE altimeter setting. First, attempt not to use QFE at all. On request, the majority of controllers will give us a QNH setting anyway. When controllers will not give us a QNH setting, we are forced to use QFE. The easiest way to deal with this is to request radar vectors for a radar approach. We know that QFE gives us the height above station, so we can use the height above touchdown for our DH or MDA. A 200′ HAT on a PAR gives us a 200′ DH. A 380′ HAT for an ASR gives us an MDA of 380′. But what can we do if the radar approaches are down and we must still use QFE? The first thing to explain is that although a base uses QFE, FLIP still publishes the IAP for use with a QNH altimeter setting. Looking at the example for Waddington AB (**figure 2**) in the United Kingdom, let's see how to handle QFE. If you must fly the entire approach, we subtract the touchdown zone elevation (it gives the most accurate altitudes since we are looking for zero on landing) from each of the altitudes depicted on the approach to give us the QFE altitudes to fly. At Waddington the touchdown zone elevation is 231′. Simply subtract 231′ from the altitudes, giving us an IAF of 2,500′, a FAF altitude of 1,500′ and an MDA of 289′ for the localizer or a DH of 200′ for the ILS. The glide slope intercept altitude is 1,969′.

The rest of the world also has a different way of dealing with altitudes. According to FLIP GP:

> "the TRANSITION ALTITUDE is the altitude in the vicinity of the aerodrome at or below which the vertical position of the aircraft is determined from an altimeter set to sea level pressure (QNH). The TRANSITION LEVEL is lowest usable flight level available for use above the transition altitude. The TRANSITION LAYER is the airspace between the transition altitude and transition level."

Don't look for that magic 18,000′ outside the CONUS. The altitude and level will vary by country and in some cases, such as the United Kingdom, by TCA. Look for information on the appropriate transition altitudes and type altimeter setting to use in the enroute charts, area planning documents, enroute supplements and the top of the profile view of the IAPs (only transition altitude/level). When climbing, switch to 29.92 (QNE) passing through the transition altitude. When descending, change to QNH or QFE as appropriate, no later than the transition level.

This completes the series on flying outside of the CONUS. With SAC's bomber and tanker aircrews increasingly committed to overseas operations it is of paramount importance that the crews have a thorough understanding of the rules and how to work within them before they get wheels in the well. A little study of the information available makes flying much easier because you'll know what to do in normal and emergency situations in foreign airspace. **Fly safe and fly smart.** If you have any questions give SIFC a call at 347-4571.

Fire Light!

> “The show was on the other foot this time. It was 1CEVG’s turn to correctly perform the emergency procedures. . .”

(This article was coauthored by Lt Col Richard A. Khalar and Majors Don Novak, Richard J. Weisbecker and Al Cox, of STT Division, 1st CEVG, Barksdale. Ed.)

It was a perfect day to fly—clear and a million with no frontal systems or thunderstorms anywhere on the map. The 1CEVG crew, accompanied by a Boeing representative, was on a proficiency sortie for KC-10 air refueling, low level bombing activity at La Junta, and local pattern work back at Barksdale. On the way home it was decided that Lt Col Rick Khalar would make the enroute descent and first touch and go from the pilot’s seat. The pilots worked ATC on the command radio and toggled number two off. The navigator, Maj Rich Weisbecker, passed maintenance writeups and fuel status to command post on number two UHF. Everything looked good as ARTCC handed “Alger 64” off to approach control.

At approximately 25 NM northwest of the base, the crew was vectored further north, clear of a C-21 that had declared an inflight emergency for smoke in the cockpit. At 35 NM the flaps were lowered and airspeed was reduced to best flare +20 as approach gave vectors for a dog leg to final. As the C-21 disappeared into the seven-mile visibility, the IP’s voice came over CALL: “Fire Light number seven.” The pilot pulled the number seven throttle toward cutoff and turned to visually check the engine. It was engulfed in flames from top to bottom.

As the number seven fire shutoff switch was pulled, the number eight engine fire light illuminated and the number eight engine was also shut down. The pilot was now on the interphone: "Crew, we have a serious problem here, number seven and number eight engines are on fire, check your seats and equipment!"

RULE NUMBER 1 — FLY THE AIRPLANE; DELEGATE THE WORKLOAD.

The possibility to eject was real. Number seven EGT was rising through 650 degrees, and 12,000 pounds of JP-4 sat in the main tank only feet from the blaze on the end of the strut. The navigator notified the command post of the situation and intentions of an immediate landing and evacuation on the runway. The radar navigator, Maj Allan Cox, cleared the downstairs hatch area of all flight gear and equipment in preparation for a fast egress after landing. Meanwhile, the AC, Maj Don Novak, alerted approach of the inflight fire and ALGER 64 was immediately cleared for all headings and altitudes. There were three people who might have to eject or bail out from downstairs, so the pilot leveled off at 4,000 feet AGL. Although the fuel shutoff valves were closed, the fire did not let up. Flames were going straight back in the airstream, but there was no indication they were moving up the strut to the wing—a wing fire would mean evacuation of the aircraft.

Airspeed was increased to 185 knots in an attempt to blow the fire out and reduce flight time. The radar navigator had the crosshairs on the end of the runway to provide a time and heading to touchdown to the crew. The direct course to the runway was well right of the normal approach but avoided populated areas.

The AC glanced around the cockpit and reviewed the affected systems. Number seven hydraulics read zero, which meant the right outboard spoiler/airbrake group would be inoperative. However, control problems associated with the spoiler/airbrake group were negated by the effects of two inoperative engines on the same side. Number seven generator was off, but its load automatically was picked up by the other three. A six-engine approach and landing, or asymmetrical thrust go-around at 275,000 pounds gross weight with good visibility, should not be a problem. The problem was the fire and the potential problems caused by the preceding C-21 emergency if the runway was closed two minutes before our arrival. The crew evacuation plan was reviewed—stop on the runway, shut down, egress as quickly as possible, and assemble at least 2,000 feet from the nose of the aircraft.

The pilot elected to fly a visual approach, using the glideslope indicator as a backup. Up to now, the offensive team stayed off the interphone, coordinating with command post on number two and letting the pilots concentrate on flying the aircraft, but now the navigator called for a configuration check for the command post and relayed the pilot's confirmation over radio number two. As the pilot started descent, he slowed to best flare plus 10, raised airbrakes to four, and centered the rudder trim. One last configuration check—gear, flaps, airbrakes, lights. 20TG—20 seconds seemed like 20 minutes. . . lots of flashing lights. . .emergency vehicles everywhere. . .and then, touchdown. The AC raised the airbrakes to six and the pilot deployed the drag chute. The navigators started turning off all equipment and oxygen downstairs, permitting the INS's despin on battery power. Tower confirmed a fire on number four pod: "64, fire appears to be still burning. . .ALGER 64 recommend you evacuate, evacuate!. . .the fire is spreading."

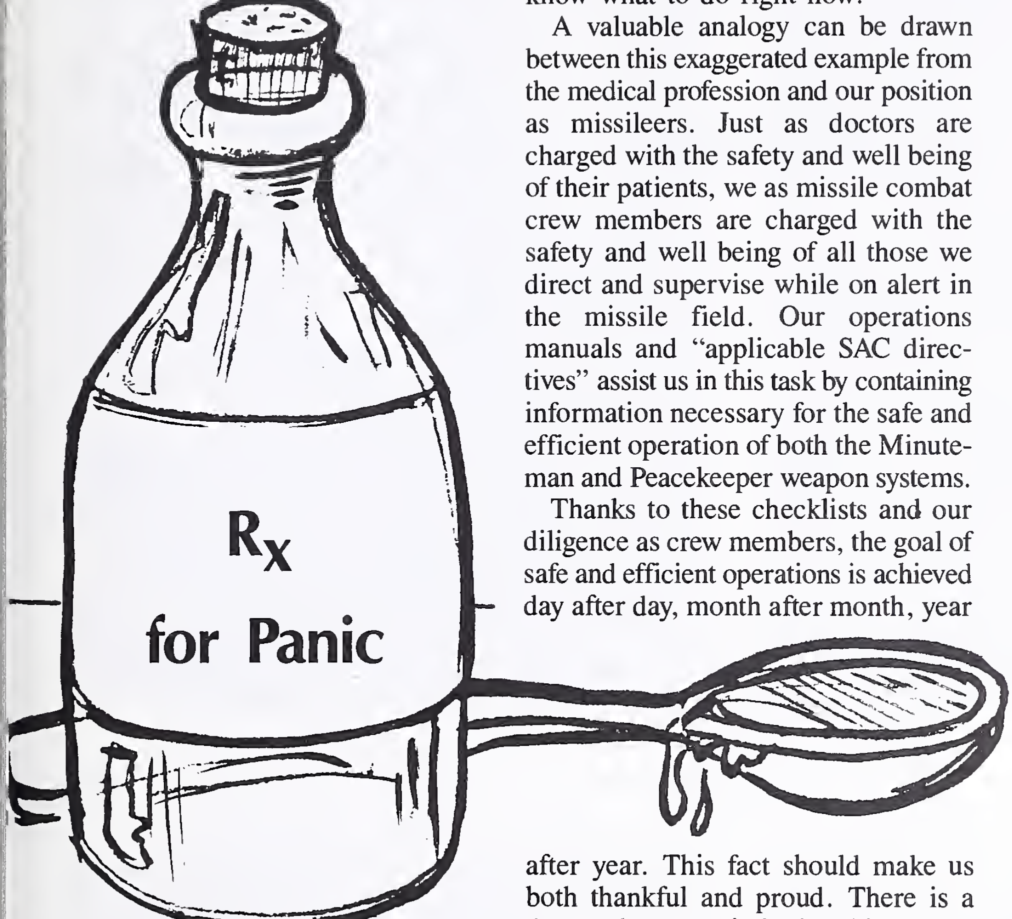
Fire trucks were charging in from everywhere. As the aircraft came to a stop, the navigators called for an open window before opening the hatch.

"Everybody out!" the pilot shouted, but no one needed any encouragement.

A parked KC-10 had exploded on a ramp only days before, and the memory was still fresh in our minds. The brakes were set while the pilot cut the remaining six engines. He then shut down the fuel panel and turned the battery switch off. The IP had laid the number one seat pins on the aisle stand by the pilot who now proceeded to unstrap. As he flipped both parachute leg straps, the right one would not release. "You coming?" the AC yelled to the pilot as he headed down the ladder. The pilot stood up and finally shook the strap loose. Reaching the ladder, he looked down at a fireman's gold face plate. As he reached the bottom of the ladder the fireman held up his hand and yelled, "You're number five. . .you're the last one!" The pilot yelled that he was and gave a "thumbs up."

The radar navigator led the way as the crew ran up the runway away from the burning B-52. By now the wing was being smothered in white foam and looked as if it had just been caught in a huge snowstorm. The fire was almost out and as the foam disappeared the crew could see the "spaghetti" of wires and tubing on the sides of the engines where the protective metal had melted away. Part of that metal had apparently fallen from the aircraft and ignited some grassland north of the field. The local fire department responded and quickly extinguished the fire before any significant damage had been done.

The entire episode lasted just seven minutes from fire light to last man out of the aircraft. Although the abbreviated checklists were used, there was no time to consult the expanded Dash 11. Experience and systems/procedural knowledge permitted the crew to walk away from this one. They were fortunate in many respects; i.e., proximity to the base, good weather, and flying proficiency. By relying on the basics and flying the aircraft first, they got down safely, proving once again that an aircraft in control will buy time to make the right choice.



Rx for Panic

Capt Michael P. MacIver
4315 CCTS, Vandenberg AFB

"Oops! Oh no!" The words jar you from your anesthetic induced slumber. As you raise your head and squint through your eyelids, you notice an assemblage of surgically garbed personnel hovering about your midsection. Suddenly it all comes back to you—you're in the hospital for an appendectomy!

One too many indigestible popcorn kernels has left you in your current condition. But why the commotion? You don't recall the doctor mentioning anything about possible complications during your "pre-de-appendix" briefing. You're starting to fade and the image of a problem card from trainer rides past flashes into your mind: "Your Personal Safety is Now in Jeopardy!" Just prior to fainting away you hear the surgeon say, "If only I had reviewed the procedure for this complication, I'd know what to do right now!"

A valuable analogy can be drawn between this exaggerated example from the medical profession and our position as missileers. Just as doctors are charged with the safety and well being of their patients, we as missile combat crew members are charged with the safety and well being of all those we direct and supervise while on alert in the missile field. Our operations manuals and "applicable SAC directives" assist us in this task by containing information necessary for the safe and efficient operation of both the Minuteman and Peacekeeper weapon systems.

Thanks to these checklists and our diligence as crew members, the goal of safe and efficient operations is achieved day after day, month after month, year after year. This fact should make us both thankful and proud. There is a danger, however, in letting this state of "safeness" lull us into a false sense of security. Accidents are still bound to happen every now and then and when they do, we must be ready to safeguard our assets, minimize any damage, and prevent injury.

For instance, once indications of a Propulsion System, Rocket Engine Pressure/Propellant Alarm are received in the launch control center, it's too late to be referencing Section II of the tech order and rifling through the regulations looking for "that contingency checklist." Once the capsule becomes engulfed in thick, gray smoke due to a motor generator fire, it's too late to be reading the self-contained breathing apparatus operating instructions for the first time.

The preparation for such emergencies must be ongoing. Monthly training packages and missile procedures trainer rides serve this need well, but not completely. One of the most important forms of preparation is that conducted while on alert as a crew. The value of discussing potential situations and their solution is immeasurable.

I remember many an alert, when just as I had settled into position with the most recent edition of Sports Illustrated, my commander would jar me with a sudden, "Mike, what would you do right now if. . ." For every action I'd name he would supply a different twist: "assume your dial lines aren't working, what then?"

"Well, then I'd. . ." To be honest I can't recall us ever having to put those scenarios into action, but thanks to his foresightedness and dedication we always felt "ready" and I'm sure that feeling would have worked for us had we ever needed to act in an emergency.

Prior preparation serves the cause of safety not only in the clutch emergencies, but also in day to day activities. Take for example how unintelligible the B circuit combination change checklist appears when you haven't looked at it in a while. Reviewing it when there isn't any launch facility activity, and knowing it cold when called upon to use it, could save the maintenance team valuable time. Rather than wasting 45 minutes to figure out who authenticates on which table, you can have the team on their way back to base in a minimum amount of time. The time you save, as a result of your earlier studying, could be the difference between an exhausted team driving back to base in the dark, and the same team driving back to base safely, while they're alert and there's still daylight.

Preparing for the busy times during dead time makes sense. Where safety is involved there is no substitute for prior preparation. Use the time driving to the launch control facility or on alert when nothing's happening to put your crew in imaginary emergency situations. Decide ahead of time what actions you would take given various contingencies. Being ready for the unexpected leaves time for safe operations. Don't be left saying, "If only I had reviewed the procedure for this complication, I'd know what to do right now!"

PROFESSIONAL PERFORMERS

Missile Crew

The 341 SMW Minuteman Crew E-180, Capt Ricardo A. Ferris, MCCC, and 2Lt Richard S. McAlister, DMCCC, is SAC's Missile Crew of the Month.

Crew E-180 exhibited outstanding system knowledge and superb crisis management tactics in the face of a potentially dangerous situation. Sierra Launch Control Center (LCC) was responsible for monitoring and relaying the operational and maintenance prints to Romeo LCC for their ten missiles. In addition they were tasked to accomplish a tedious and demanding remote retargeting to their missiles in conjunction with the annual SIOP revision. After three hours of retargeting actions, the smell of burning teflon and plastic began to fill the air. Lt McAlister detected smoke coming from the status console communication panel. After swift analysis of the situation, the squadron command post and the flight security controller were immediately made aware of the potential loss of communications. Capt Ferris and Lt McAlister, using their technical data and expertise, made every effort to control the fire by opening the appropriate circuit breakers in a quick, professional manner. After all isolation actions were accomplished, the crew monitored for dissipation of the smoke. When it appeared safe, Crew E-180 wired the alternate battle staff telephone to the LCC junction box set and quickly re-established communications, notifying all necessary agencies of their status. Although the communications panel was lost in the fire, the crew was credited with saving the adjoining status monitoring equipment. Capt Ferris and Lt McAlister's leadership qualities and aggressiveness prevented additional equipment damage and possible injury in a situation where the potential for loss was immense.

Missile Maintenance

TSgt Eddie R. Gilbert, 321 SMW, Grand Forks AFB, is SAC's ICBM Maintenance Airman of the Month. Assigned as the NCOIC of the Facility Maintenance Team Section, Team Training Branch, Sgt Gilbert maintained a 100 per cent pass rate on all Quality Assurance evaluations during the past year. He developed and implemented an aggressive program to remove obsolete LCF topside heat exchangers. Submitting 35 Technical Data Improvement Reports, Sgt Gilbert has strived to improve maintenance procedures command wide. His efforts to better prepare students for assignment to the Periodic Maintenance Team Section after graduation were complemented by his development of a coordinated plan for initial students to perform a complete periodic maintenance inspection. Sgt Gilbert has performed an emergency replacement of an air conditioning fan assembly and three emergency LCF Brine Chiller refrigerant compressor removal and replacements.

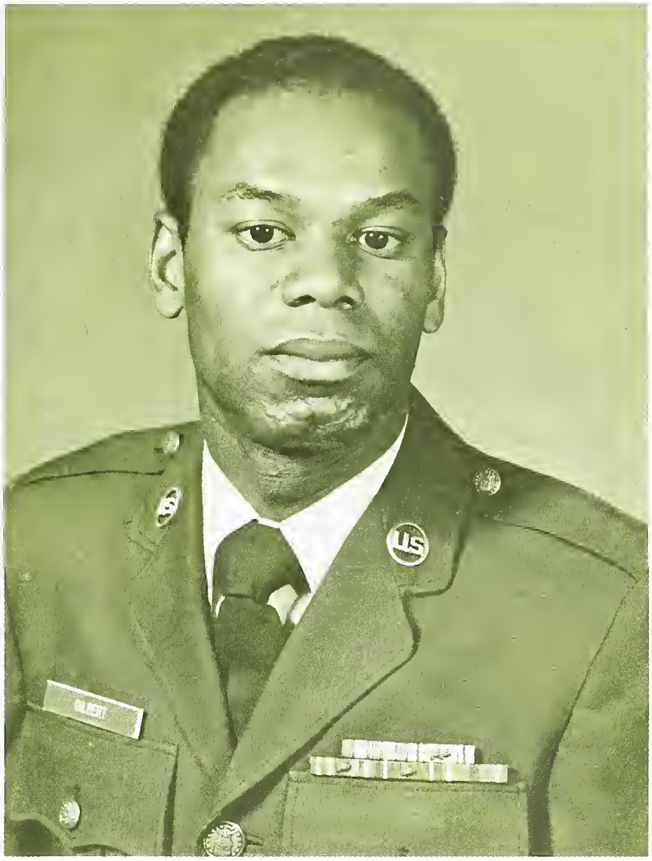
Munitions Maintenance

SrA Robert A. Hassell Jr., 341 SMW, Malmstrom AFB, is SAC's Munitions Airman of the Month. Airman Hassel has been awarded the SAC Journeyman Technician Award for his exemplary workmanship demonstrated during the HQ SAC IG, Field Command Defense Nuclear Agency (FCDNA), and 3901 SMES inspections. His unequaled initiative became apparent when he assumed the MK 11 technical order monitor position. He developed a highly aggressive program to ensure a superbly maintained file of 70 technical orders. Airman Hassel also spent numerous hours repairing the lightweight spacer on Team Training Branch's reentry vehicle. This spacer refurbishment saved the Air Force over $18,000 by locally repairing the badly damaged spacer instead of ordering a replacement. Notified that there was a chipped spacer on a Minuteman II reentry vehicle standing alert, Airman Hassell volunteered for the dispatch to repair the spacer on site. He quickly assembled the required T.O.'s, tools, and supplies and was transported to the field by helicopter and repaired the spacer. His actions allowed a Minuteman II missile to remain on alert and saved the Air Force the cost of two convoys.

Aircraft Maintenance

SrA Thomas A. Sims, 28 BMW, Ellsworth AFB, is SAC's Maintenance Airman of the Month. Assigned as an aerospace ground equipment (AGE) repairman, Airman Sims was instrumental in establishing operational instructions on the B-1B hydraulic test stand and enthusiastically volunteered his time to train approximately 25 specialists on the safe and proper operating procedures. This has helped maintain the test stands at a near 100 percent in-commission rate. He also implemented a new method for inspections on ready-line equipment which virtually guarantees reliable equipment for dispatch to the flight line. The method involves inspecting a different type of equipment each day, thus by the end of the week every piece of AGE has been thoroughly checked. His articulate plan has eliminated costly delays in dispatching equipment. Through his sustained commitment to excellence, Airman Sims has helped maintain a superior training program in the servicing section. His dynamic approach to training assigned personnel has earned the section excellent ratings from the 28 BMW Quality Assurance section and the HQ SAC MSET team.

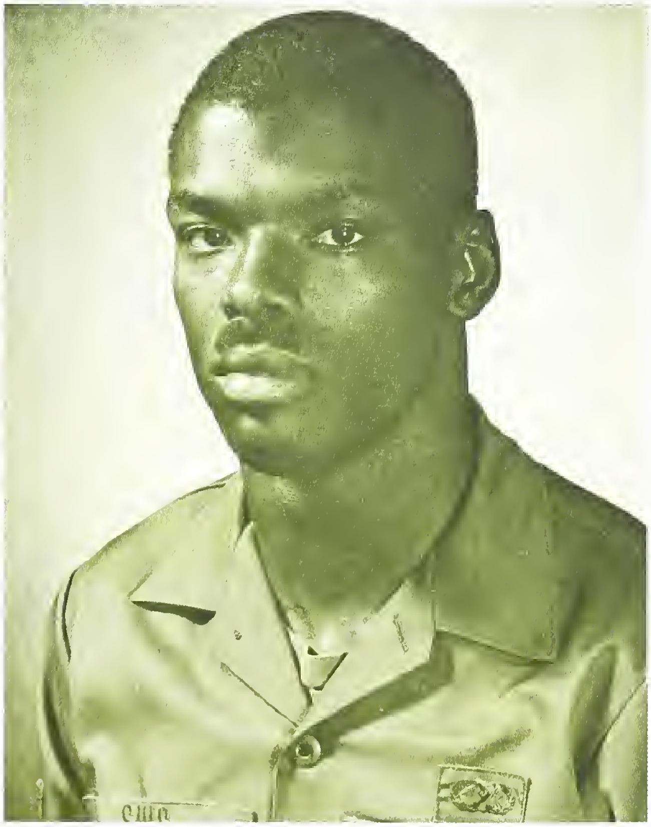
MISSILE CREW



ICBM MAINTENANCE

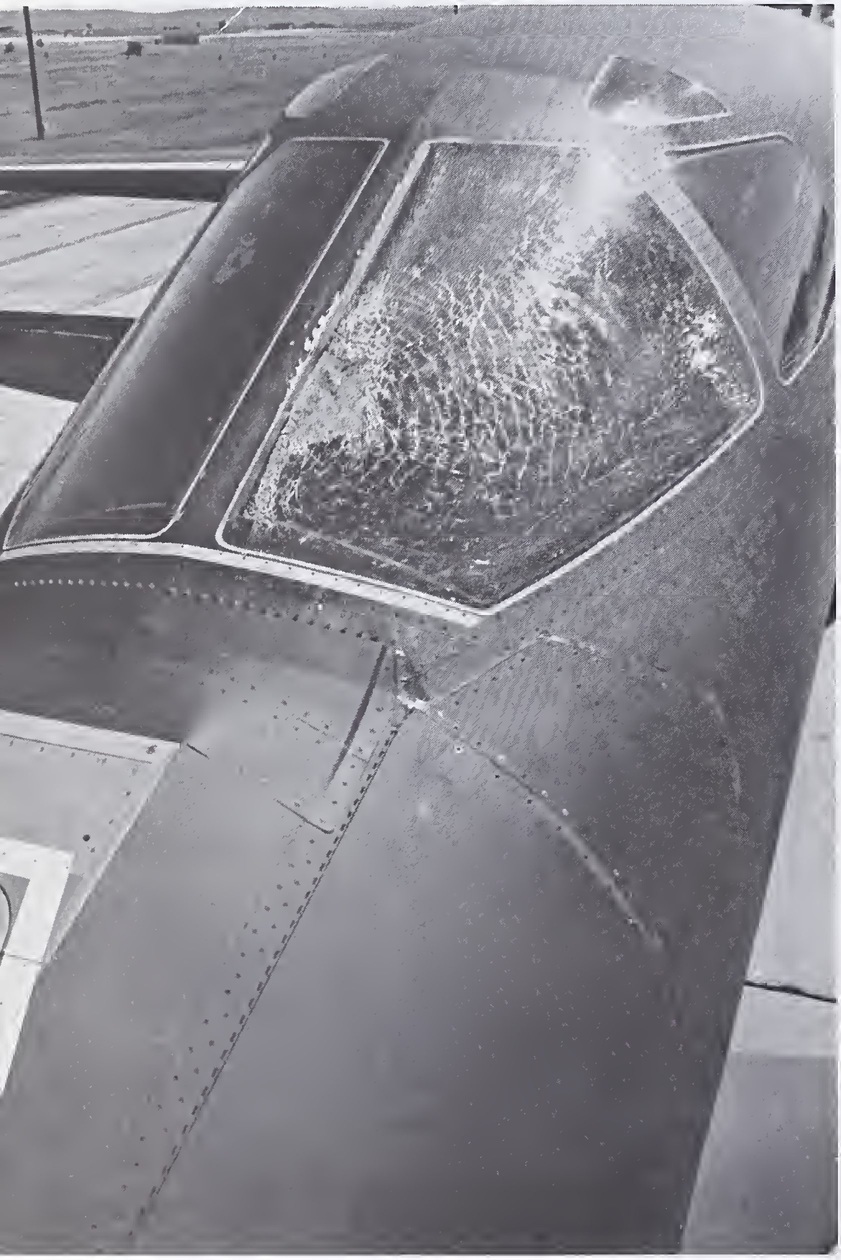
MUNITIONS MAINTENANCE

AIRCRAFT MAINTENANCE



Heads Up

Captain Thomas R. Olsen, Jr., an aircraft commander with the 77 BMS, Ellsworth AFB, is the newest member of Combat Crew's Heads Up Flying Club.



Capt Olsen was recently flying the low level portion of a B-1B training sortie on instrument route 478 in the strategic training range complex when his windscreen was struck by a medium-sized bird. The aircraft was traveling at 570 knots true airspeed 400 feet above ground level. Capt Olsen was using visual contour flight tactics to maintain the desired 400 feet clearance from the ground.

The incident occurred so quickly that neither Capt Olsen nor his pilot saw the bird coming. The strike occurred with a loud "bang" and the windscreen on the aircraft commander's side of the aircraft completely spider-webbed. Capt Olsen immediately started a climb on instruments to get away from the ground and avoid the high terrain (approximately 5000 feet above them) 20 miles off the nose of the aircraft (two minutes flight time at 570 knots). Capt Olsen had to simultaneously reduce airspeed quickly to minimize the load on the windscreen, consequently requiring a change in the wing sweep configuration, which in turn requires close attention to and monitoring of center of gravity to maintain a stable flight regime.

The pilot was coordinating the low level abort with Salt Lake Center and maintaining VFR traffic separation while the offensive systems officer assured terrain clearance and kept the aircraft clear of hazardous weather with radar.

Once the initial actions had been accomplished, Capt Olsen transferred aircraft control to the pilot—a precaution against the windscreen imploding directly upon the pilot in control. He then carefully inspected his windscreen and decided it was safe to return to Ellsworth AFB rather than make a precautionary landing in Glasgow, Montana. Leveling off at 11,000 feet pressure altitude to reduce the airloads on the windscreen, it took two hours to return to Ellsworth AFB, once again navigating around hazardous weather and terrain that was higher than their flight level. Prior to initiating an approach into the airfield, Capt Olsen directed a controllability check, which showed no degradation. The pilot landed the aircraft, since Capt Olsen's windscreen was extremely distorted. At one point he was seeing three distinct runways at the single runway airfield. The full stop landing was uneventful.

SAC SAFETY SCREEN

The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crew members must be nominated by their unit commanders and meet high selection criteria of experience in their aircraft or missile system *IAW AFR 127-2/SS1.*

407 AREFS, Loring Crew E-173: AC Capt David C Branach, P Lt Darren J Reed, N Capt Franklin C Huhn, BO SSgt Kenneth T Acosta

715 BMS, Pease Crew S-04: IP Capt Dave Hooney, IRN Maj Luke Lu

524 BMS, Wurtsmith Crew R-16: AC Capt John F Holly, P 1Lt Robert F Bussian, RN Capt Kent D Rogers, N Capt John J Kiecana, EW 1Lt Michael T Leffler, G A1C John C Oliver

524 BMS, Wurtsmith Crew E-19: AC Capt Steven M Ciccanti, P 1Lt Stephen R Kowalski, RN Capt Dale E Williams, N 1Lt Edward F Beck, EW 1Lt Brian C Howe, G Sgt Leon B Wright

920 AREFS, Wurtsmith Crew E-133: AC Capt Bob Maddox, P Lt Steve Donovan, N Lt Dave Jaurique, BO SSgt Gary Davis

384 AREFS, McConnell Crew R-108: AC Capt Warren R Cole, P 1Lt Dennis L Cole, N 2Lt Lex A Abadie, BO Amn Thomas C Day

384 AREFS, McConnell Crew R-165: AC Capt John D Christner, P 1Lt Scott B Tilley, N 1Lt Brad L Sargent, BO A1C Michael J Block

69 BMS, Loring Crew R-40: AC Capt Steve L Call, P 1Lt Greg C Guest, R Capt Don R Lester, N 1Lt Mark S Kelley, EW 1Lt Rick L Chapman EW, G A1C Scott K Maloney

42 AREFS, Loring Crew S-110: AC Capt Richard J Johnson, P Capt Brian R Covi, N Capt Lisa M Fisk, BO TSgt James J Norris

42 AREFS, Loring Crew E-133: AC Capt Theresa M Claiborne, P 2Lt Thomas J Mazaika, N Capt Bradley J Chaisson, BO Sgt Matthew J Karnauskas

11 AREFS, Altus Crew E-112: AC Capt Randy Roesner, P 2Lt Ken Lewis, N 1Lt Mark Thomas, BO SSgt Lou Rushano

306 AREFS, Altus Crew R-161: AC Capt Brett Peele, P 1Lt Chuck Ostrom, N 1Lt Joe Dylewski, IBO SSgt Joe Surovy

715 BMS, Pease Crew R-14: P Capt Chris Siebach, RN Capt Merid Dates

715 BMS, Pease Crew E-32: IP Capt Dave Rutkiewic, IRN Capt Mike Balog

393 BMS, Pease Crew R-15: P Capt Edward Shiembob, RN 1Lt Jay Atkins

393 BMS, Pease Crew E-19: IP Capt Patrick J O'Connor, IRN Capt Brian P Young

393 BMS, Pease Crew R-43: P Capt Terry Wescoat, IRN Capt James McGinley

393 BMS, Pease Crew R-27: P Capt Jeff Olden, RN Capt Larry Hose

393 BMS, Pease Crew R-11: P Capt Mike Skinner, RN Capt Jeff Harrington

509 AREFS, Pease Crew R-113: AC Capt Richard W Jones, P 1Lt John D Wright, N 1Lt William F Burns, BO A1C Daniel O Wells

509 AREFS, Pease Crew R-124: AC Capt Leone G Atsalis, P 1Lt Donald P Barmore, N 1Lt Peter E Rooney, BO SSgt Michael A Casey

70 AREFS, Grissom Crew R-172: AC Capt Mark E Canterna, P Lt Scott A Hebble, N Lt Greg Howe, BO TSgt Nathan K Wilds

305 AREFS, Grissom Crew R-121: AC Capt Wayne E Steward, P Capt Douglas T McHugh, N 1Lt Mark W Gooch, BO A1C Timothy W Alvey

FLARE

UNIVERSITY OF FLORIDA
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HALL OF FAME

Over Thirty-One Years

170 AREFG, McGuire (NJANG)	Feb '56

Over Twenty Years

171 AREFW, Greater Pittsburgh (PAANG)	Mar '58
157 AREFG, Pease (NHANG)	Jun '58
940 AREFG, Mather (USAFR)	May '59
151 AREFG, Salt Lake City (UTANG)	Feb '61
11 SG, Fairford	Feb '62
134 AREFG, McGhee Tyson (TNANG)	Mar '62
160 AREFG, Rickenbacker (OHANG)	Dec '64
320 BMW, Mather	Jul '65
452 AREFW, March (USAFR)	Sept '66
55 SRW, Offutt	Jul '67
2 BMW, Barksdale	Aug '67

Over Ten Years

5 BMW, Minot	Feb '69
141 AREFW, Fairchild (WAANG)	Oct '69
28 BMW, Ellsworth	May '70
101 AREFW, Bangor (MEANG)	Mar '72
306 SW, Mildenhall	Apr '72
416 BMW, Griffiss	May '72
379 BMW, Wurtsmith	Apr '73
931 AREFG, Grissom (USAFR)	Feb '74
384 AREFW, McConnell	Mar '74
43 BMW, Andersen	Dec '74
68 AREFG, Seymour Johnson	Sept '75
410 BMW, K.I. Sawyer	Apr '77
190 AREFG, Forbes (KSANG)	Apr '77
128 AREFG, Milwaukee (WIANG)	Jul '77

Over Four Years

376 SW, Kadena	Aug '79
7 BMW, Carswell	Jul '80
319 BMW, Grand Forks	Sept '80
380 BMW, Plattsburgh	Oct '80
97 BMW, Blytheville	Jan '81
22 AREFW, March	Oct '81
161 AREFG, Phoenix (AZANG)	Mar '82
126 AREFW, Chicago (ILANG)	Mar '82
19 AREFW, Robins	Apr '83
509 BMW, Pease	Jun '83

ICBM

Over Ten Years

321 SMW, Grand Forks	Aug '72
351 SMW, Whiteman	Oct '74
91 SMW, Minot	Jul '76
44 SMW, Ellsworth	Dec '76

Over Five Years

90 SMW, F.E. Warren	Dec '79

To gain listing in the Hall of Fame, a SAC or ARF unit must be Class A mishap-free for 48 months.